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Clitics in Northern Italian Dialects: Phonology, Syntax and Microvariation[*]

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1. Introduction

In recent years, there has been much published on the topic of subject clitic pronouns in the northern Italian dialects. Most of these studies have focused on either the phonology or the syntax of these structures from a cross-linguistic perspective in an attempt to establish the range of variation and to formulate empirical generalizations in this area of great microvariation.[1]

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[1]. Some recent studies on clitics in northern Italian dialects include Pisani (1979), Benincà and Vanelli (1982), Benincà (1983), Brandi and Cordin (1981), (1989), Lombard (1983), Renzi and Vanelli (1983), Vanelli (1984), (1987), Rizzi (1986), Michelini (1989), Poletto (1993a), (1993b), (1996), (1999), (2000), Zörner (1993), (1995).

In this paper we take a different path. We provide an in-depth analysis of both the phonology and syntax of subject clitics in one northern Italian dialect, Donceto (in the province of Piacenza), and we show that (i) a thorough understanding of subject clitics is possible only if we consider both their phonological and syntactic behavior, and (ii) microvariation can be understood only after establishing the true nature of what has been called "subject clitics".

While many of our findings confirm previous analyses, other important aspects of our analysis are quite different from current ones. Based on our analysis of the dialect of Donceto, we make a number of new proposals regarding the nature of many clitics in northern Italian dialects and the relationship between preverbal and postverbal subject clitics, and we show that these proposals allow us to account for microvariation which has until now remained poorly understood or completely unexplained.

1.1. The Basic Data

The dialect of Donceto in the province of Piacenza is typical of one of the many types of paradigms we find in northern Italian dialects.[2] In this dialect the first person singular, first person plural and second person plural forms of the verb have an optional preverbal vocalic segment. The other three forms have an obligatory preverbal clitic. In the second person singular and in the third person masculine singular, the clitic has a VC (vowel-consonant) structure, and in the third person masculine plural, it is a V (vowel). Note that the vocalic portion of the clitic of the singular forms and the first two plural forms is identical, but it is different from the vocalic clitic of the third person plural.[3]

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[2].   Unless otherwise indicated, all data reported in this study are from field research, and we are very grateful to our informants for their time and patience. Most data come from the dialect of Donceto. When comparative data are relevant for the analysis, we use data from a related Piacentine dialect spoken in Gazzoli, a town approximately 5 kilometers from Donceto. The patterns found in Donceto and Gazzoli are common throughout Emilia-Romagna (see Gaudenzi 1889, Mandelli 1995, Repetti to appear, Zörner 1989). For an insightful analysis of the syntactic and semantic properties of subject clitics in the dialect spoken in the city of Piacenza, a dialect related to the one studied here, see Zucchi (1996).

[3].   We are not going to analyze the third person feminine subject clitics *la* 'her' and *e* 'them' in detail because they behave essentially like their masculine counterparts. They will be considered only when relevant to the discussion.

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(1) (ə) 'be:v   'I drink'   (ə) bu'vum   'we drink'

     ət 'be:v 'you:sg drink'   (ə) bu'vi   'you:pl drink'

     əl 'be:və 'he drinks'   i 'be:vən   'they:masc drink'

In (2), the corresponding interrogative sentences are provided. Note that the distribution and the phonological form of the preverbal material are, in some cases, different from what is found in declarative sentences. Note also that in all forms, the preverbal vowel is optional, while the postverbal clitic is obligatory.[4]

(2) (ə) 'be:v-jə   'am I drinking?'   (ə) bu'vum-jə 'are we drinking?'

      (ə) 'be:v-ət   'are you:sg drinking?' (ə) bu'vi:-v   'are you:pl drinking?'

      (ə) 'be:və-l   'is he drinking?'   (ə) 'be:vən-jə 'are they:masc drinking?'

In this paper, we analyze both the proclitic and the enclitic material, concentrating on the preverbal vocalic segment /ə/. Consider (3), where the declarative data in (1) are organized as to whether the preverbal schwa is obligatory (3a), impossible (3b), or optional (3c). In (4) we reorganize the interrogative sentences of (2) in such a way that the contrast between the occurrence of the vocalic segment in declarative sentences and its occurrence in interrogative sentences is pointed out: in (4a), the preverbal schwa is optional, while it is obligatory in declarative sentences; in (4b) the vowel can be optionally present, while it is absent in declarative sentences; and in (4c) the vowel is optional as it is in declarative sentences.

(3)   declarative sentences:

      a.   ə t be:v   'you:sg drink'

           ə l be:və   'he drinks'

      b.   (*ə) i 'be:vən   'they drink'

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[4].   Notice that in the second person plural form of the verb, the final vowel is short in the declarative form and long in the interrogative form with an enclitic pronoun: [bu'vi] vs [bu'vi:-v]. In the dialect of Donceto, certain consonants (such as /v/) require the preceding stressed vowel to be long. See Ghini (2001) for an analysis of "lengthening consonants" in the northern Italian Ligurian dialect of Miogliola.
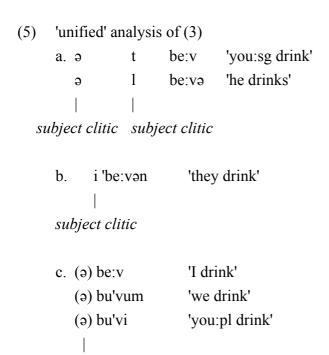
    c.   (ə) be:v   'I drink'

        (ə) bu'vum   'we drink'

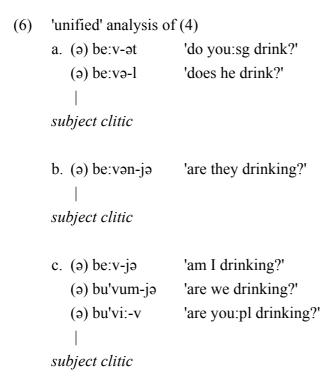   (ə) bu'vi   'you:pl drink'

(4)   interrogative sentences:

    a.   (ə) be:v-ət   'are you:sg drinking?'

        (ə) be:və-l   'is he drinking?'

    b.   (ə) be:vən-jə 'are they drinking?'

    c.   (ə) be:v-jə   'am I drinking?'

        (ə) bu'vum-jə 'are we drinking?'

        (ə) bu'vi:-v   'are you:pl drinking?'

1.2. Two Possible Analyses

One analysis of the data in (3) and (4) is that all the preverbal material is a subject clitic. In particular, the preverbal vowels belong to the series of vocalic clitics individuated in works on other northern Italian dialects (see Poletto 1993a, 2000, and references therein). We will refer to this analysis as the 'unified' analysis.

(5)   'unified' analysis of (3)

    a. ə   t   be:v   'you:sg drink'

       ə   l   be:və   'he drinks'

       | |

    subject clitic subject clitic

    b.   i 'be:vən   'they drink'

         |

    subject clitic

    c. (ə) be:v   'I drink'

      (ə) bu'vum   'we drink'

      (ə) bu'vi   'you:pl drink'

        |

    subject clitic

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(6)   'unified' analysis of (4)

    a. (ə) be:v-ət   'do you:sg drink?'

      (ə) be:və-l   'does he drink?'

       |

    subject clitic

    b. (ə) be:vən-jə   'are they drinking?'

       |

    subject clitic

    c. (ə) be:v-jə   'am I drinking?'

      (ə) bu'vum-jə   'are we drinking?'

      (ə) bu'vi:-v   'are you:pl drinking?'

       |

    subject clitic

Poletto (2000: 12f) has proposed dividing preverbal subject clitics found in northern Italian dialects into different classes based on their phonological realization: vocalic subject clitics and consonantal subject clitics. She further subdivides subject clitics according to the different features they realize, so that they may be classified as invariable, deictic, number, or person subject clitics.

(7)   a. VOCALIC subject clitics:

      • **invariable** subject clitics   (all persons)

      • **deictic** subject clitics   (1st / 2nd pers. vs. 3rd pers.)

      • **number** subject clitics   (3rd pers. pl. masc.)

    b. CONSONANTAL subject clitics:

      • **person** subject clitics   (2nd pers. sg., 3rd pers. sg. masc.)
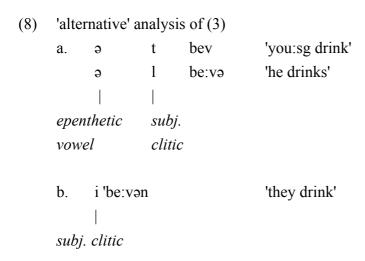
      • **number** (+gender) subject clitics   (3rd pers. sg. and pl. fem.)

According to Poletto, an **invariable** subject clitic "does not encode any subject feature at all, as it is […] invariable for all persons" (p. 12). Furthermore, "invariable SCLs [subject clitics] are the only clitics that express a theme/rheme distinction. […] [They] may be used to indicate that the whole sentence is new information" (p. 23). The preverbal vocalic segment in (6) might be a candidate for this class of subject clitics.

Another class consists of **deictic** subject clitics. A deictic subject clitic "encodes a deictic feature, as it only has two forms: one used for the first and second person (singular and plural) and one for the third person (singular and plural) [...] This type of SCL is sensitive to the +/− third-person distinction or, better, to the distinction between the deictic persons who are present in a conversation (first and second person) with respect to those who are absent (third person)" (p. 13). Some of the subject clitics in (5) might be analyzed as belonging to the deictic class.

Consonantal second and third person singular subject clitics (such as *t* and *l* in (5a)) encode person features (the "±hearer feature" p. 14), and naturally fall into Poletto's **person** class of consonantal clitics. Vocalic third person plural subject clitics (such as *i* in (5b)) encode number ("±plural") and gender ("±feminine") features (p. 14), and might be considered **number** subject clitics.

The other analysis that we will consider challenges the view that all the preverbal material in (3) and (4) is to be considered a subject clitic. We will show that only the consonantal portion of the preverbal clitics in (3a) (namely, /t/ and /l/) and the vocalic segment in (3b) (namely, /i/) are subject clitics. In other words, we will argue that only the **person** and **number** subject clitics in Poletto's typology are true subject clitics. The preverbal schwas in (3a), (3c) and (4) are not subject clitic pronouns at all: the schwa in (3a) is an epenthetic vowel, the schwa in (3c) is, what we call, a subject-field vowel, realizing a functional head of the Infl layer, and the preverbal schwa in (4) is, what we call, an 'interrogative vowel', realizing a functional head of the Comp layer.

(8) 'alternative' analysis of (3)

   a.   ə   t   bev   'you:sg drink'
         ə   l   be:və   'he drinks'

         | |

      epenthetic   subj.
      vowel   clitic

   b.   i 'be:vən   'they drink'

         |

      subj. clitic

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c. (ə) be:v   'I drink'
    (ə) bu'vum   'we drink'
    (ə) bu'vi   'you:pl drink'
         |
    subject-field vowel

(9) 'alternative' analysis of (4)
     (ə) be:v-ət   'do you (sg) drink?'
     (ə) be:və-l   'does he drink?'
     (ə) be:vən-jə   'are they drinking?'
     (ə) be:v-jə   'am I drinking?'
     (ə) bu'vum-jə   'are we drinking?'
     (ə) bu'vi:-v   'are you:pl drinking?'
       |
    interrogative vowel

In this paper, we will see that there are many problems with the 'unified' analysis of the preverbal vowels in (3) and (4), and we will develop the 'alternative' analysis of these data. We also investigate the nature of the postverbal material in the interrogative sentences in (4), suggesting that, despite superficial differences and *contra* current analyses, they are subject clitics belonging to one and the same paradigm as the true preverbal subject clitics in (3a) and (3b).

The data we discuss are mainly from the dialect of Donceto. However, since the dialect of Donceto is typical of one of the many types of systems we find in northern Italy, our conclusions can be extended to other northern Italian dialects. We show that once the nature of the pre- and postverbal material is correctly established, the question of microvariation can be addressed successfully.

This paper will be organized as follows. In §2 we investigate the nature of the preverbal clitics in declarative sentences and motivate the analysis in (8) using comparative as well as neurolinguistic data. In §3 we investigate the nature of the preverbal clitics in interrogative sentences (see (9)) and conclude that they are not subject clitics, but are "interrogative vowels" realizing a functional head of the Comp layer. We study many types of interrogative sentences including yes-no questions and questions involving wh-clitics and wh-phrases, and we use data from a number of dialects. In §4 the postverbal clitics in interrogative sentences are considered, and we conclude that they are also subject clitics, belonging to one and the same paradigm as the true preverbal subject

clitics. Our analysis is again supported by cross-linguistic data. In §5 we discuss the different behavior of weak vs. clitic pronouns, accounting for the partial pro-drop properties of northern Italian dialects, and in §6 we conclude the article.

2. Preverbal Clitics in Declarative Sentences

In this section we examine the data presented in (3), and we compare the 'unified' analysis of these data (5) with the 'alternative' analysis (8).

2.1. Second and Third Person Singular: Two Subject Clitics or One?

We begin our investigation of the nature of the preverbal vowel in declarative sentences with an analysis of the second and third person singular forms. Some sequences of vowel + consonant in other northern Italian dialects are analyzed as consisting of two subject clitics: a vocalic clitic and a consonantal clitic. See e.g. the Friulian data in (10), discussed in Poletto (2000: 13).

(10) a. i   ti   mangis   'I you eat'
       | |
    subj.cl. *subj.cl.*

    b. a   l   mangia   'A he eats'
       | |
    subj.cl. *subj.cl.*

If this analysis is extended to the subject clitics [ət] and [əl] in (3a), they should be analyzed as a combination of two subject clitics: a vocalic clitic and a consonantal clitic.

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(11) 'unified' analysis

  /ə/ + /t/ + /be:v/   'you:sg drink'

  /ə/ + /l/ + /be:və/   'he drinks'

  | |

  subj.cl.   subj.cl.

Alternatively, these structures can be analyzed as consisting of a single consonantal clitic; the vowel is not a subject clitic.

(12) 'alternative' analysis

  /t/ + /be:v/   'you:sg drink'

  /l/ + /be:və/   'he drinks'

  |

  subj.cl.

Evidence from various sources suggests that the preverbal schwa in the second and third person singular forms is not a syntactic entity, but is an epenthetic vowel.[5]

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[5]. Early studies of northern Italian dialects treated the vowel in the third person singular masculine subject clitic (/Vl/) as epenthetic (Bertoni 1905, Gorra 1892, Piagnoli 1904). More recently, Vanelli (1984) analyzes the second person singular subject clitic in a way which is similar to the one presented here, namely /t/ is analyzed as a subject clitic and the vowel as epenthetic; however, her analysis of the third person singular masculine clitic as monomorphemic (/Vl/) differs from ours. Notice that the data we use to argue against the 'unified' analysis of second and third person singular subject clitics also argue against the analysis of them as being monomorphemic subject clitics with a /VC/ (vowel-consonant) structure. Poletto (2000: 14) takes second and third person singular clitics to have the form *t* + V and V + *l*, respectively, although she claims that "there are reasons to believe that the vowel here is epenthetic" (Poletto 2000: 177, n. 2). However, her analysis of the sentence in (i) contradicts this claim and suggests that at least the vowel on the third person clitic *el* is not taken to be epenthetic. (In this respect, Poletto agrees with Vanelli 1984.) See §2.1.3 and note 10 for further discussion of this case.

(i)   Ara ch'el vien.   'look that he comes'   (Poletto 2000: 21)

2.1.1.   Sensitivity to Phonological Context

First, the relative position of the vowel and the consonant changes depending on the phonological context. In (13a) we see that the vowel precedes the consonant if the following verb begins with a single consonant, but in (13b) the vowel follows the consonant if the following verb begins with an /s/ + stop consonant cluster.

(13) a. ə t beːv   'you:sg drink'   b. t ə skriːv   'you:sg write'
         ə l beːvə   'he drinks'   l ə skriːvə   'he writes'

A change in the order of the two clitics in different phonological contexts is inconsistent with a purely syntactic analysis. However, the patterns illustrated in (13) can easily be accounted for if we consider the subject clitic to consist of a single consonant (/t/ or /l/) which is syllabified through epenthesis. The position of the vowel relative to the consonantal clitic is completely predictable if we consider the vowel to be epenthetic.

Let us now turn our attention to the process of epenthesis in the Donceto dialect as well as other northern Italian dialects (see Repetti 1995a, 1995b). An unsyllabified consonant that cannot adjoin to an adjacent syllable will be syllabified through the insertion of an epenthetic vowel. The position of the epenthetic vowel varies depending on the phonological context. If there is only one unsyllabified consonant, as in (14a), the epenthetic vowel is inserted before it. If there are two unsyllabified consonants, as in (14b), the epenthetic vowel is inserted between the two consonants.[6]

(14) a. C > əC

         /**n**vuːd/   >   [ə**n**ˈvuːd]   'nephew'
         /mag**r**/   >   [ˈmæːgə**r**]   'thin'
         /lag**r**ma/   >   [ˈlægə**r**ma]   'tear'
         /i vuris**n** parˈla/   >   [i vuˈrisə**n** parˈlæ]   'they would like to speak'

---

[6].   Epenthesis is optional before utterance-initial sC clusters, but mandatory phrase-internally.

(i)   [sp ɛtʃ]/[əspɛtʃ]   'mirror'

(ii)   *[sɛt spɛtʃ]/[sɛt əspɛtʃ]   'seven mirrors'

b. CC > CəC

/**kr**de/ > [kər'de] 'you:pl believe'

/i vuris**n s**tudja/ > [i vu'risnə stu'djæ] 'they would like to study'

Within a constraint-based approach to phonology, such as Optimality Theory (Prince and Smolensky 1993, McCarthy and Prince 1993), we can use the following constraints to account for the patterns found in the dialect of Donceto.

(15) *Complex I >> DEP >> *Complex II >> SonCon >> Contiguity >> Anchor

*Complex I: no complex onsets or codas that violate the Sonority Sequencing Principle (SSP)

*Complex II: no complex onsets or codas

DEP: no epenthesis

Sonority Contour (SonCon): the coda must be more sonorous than the following onset

Contiguity: no medial epenthesis or deletion

Anchor: no epenthesis or deletion at edges

Sample tableaux are given for /lagrma/ and /nvud/.

(16) /lagrma/	*Complex I	DEP	*Complex II	SonCon	Contiguity	Anchor
(a) 'lægr.ma	*!		*			
(b) 'læ.grə.ma		*	*!		*	
(c) 'læg.rə.ma		*		*!	*	
(d) 'læ.gər.ma ←		*			*	

(17) /nvud/	*Complex I	DEP	*Complex II	SonCon	Contiguity	Anchor
(a) 'nvu:d	*!					
(b) nə.'vu:d		*			*!	
(c) ən.'vu:d ←		*				*

With the 'alternative' analysis of the second and third person singular clitics in mind — namely, that they consist of a single consonant which is syllabified through the insertion of an epenthetic vowel — and considering the process of epenthesis as illustrated above, we can easily account for the data in (13). In (13a), repeated in (18a), the vowel precedes the clitic because there is only one unsyllabified consonant, whereas in (13b),

repeated in (18b), the vowel follows the clitic because there are now two unsyllabified consonants.[7]

(18) a. /**t** + **be**:v/   > ə **t** be:v   b. /**t** + **skri**:v/ > **t** ə **s**kri:v

      /**l** + **be**:və/ > ə **l** be:və   /**l** + **skri**:və/> **l** ə **s**kri:və

We are claiming that the preverbal vowel in (3a) is epenthetic and is not a vocalic clitic. We believe that in cross-linguistic analyses, epenthetic vowels have sometimes been misidentified as vocalic clitics because the quality of the two is often the same (see §3.8). For example, in the dialect of Donceto, the initial vowel in the sentence [ə m læ:v] 'I wash myself' can be either the optional vocalic segment ([ə]) found in sentences such as [(ə) be:v] 'I drink', as shown in (19a), or an epenthetic vowel ([ə]), as shown in (19b).[8]

(19) a. /ə   m   la:v/   >   ə m læ:v

            | |

        subj.-field   *reflex.*

        Vowel   *clitic*

        (optional)

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[7].   In careful speech we also find: [ət əskri:v]/[əl əskri:və]. The vocalic segment before the consonantal clitic can in no way be interpreted as an (optional) vocalic subject clitic, but must be interpreted as an epenthetic vowel. It is inserted in careful speech when the consonantal clitic cannot attach to the following vowel because of a slight pause between the clitic and the verb which prevents resyllabification at the phrasal level. In other words, the conditions in which [ə-təskri:v] is chosen over [təskri:v] are purely phonological and cannot be compared to the free variation found in forms such as (3c): [ə-be:v] vs. [be:v]. These phonological considerations are supported by the following distributional observation: an initial schwa is ungrammatical in the third person singular feminine form, where there is no need for epenthesis.

(i)   la be:və   'she drinks'   la skri:və   she writes'

(ii)   * ə la be:və   * ə la skri:və

[8].   Vanelli (1984: 292) analyzes similar data as we do in (19a), but she explicitly excludes the possibility of the analysis in (19b).

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b.   /m   la:v/   >   ə m læ:v
                      |
                reflex. clitic

2.1.2.   Present Perfect

There is further evidence that the preverbal schwa in the second and third person singular forms is not a syntactic entity, and therefore cannot be analyzed according to the 'unified' analysis, but is instead an epenthetic vowel. The preverbal vowel in (3a) is not found in the present perfect form.

(20)   a. * ə t ɛ bu'vi:d   b. t ɛ bu'vi:d   'you:sg have drunk'
          * ə l a bu'vi:d   l a bu'vi:d   'he has drunk'

If the preverbal vowel were a subject clitic pronoun – in other words, if there were two subject clitic pronouns (vowel + consonant) – we would expect both clitics to appear in the present perfect form, contrary to fact.

(21)   'unified' analysis
       ə   +   t   + ɛ bu'vi:d   >   *ə t ɛ bu'vi:d
       ə   +   l   + a bu'vi:d   >   *ə l a bu'vi:d
        | |
     subj.cl.   subj.cl.

The actual forms do not contain a vowel, just the consonantal clitic. This is consistent with the analysis of these clitics as consisting of a single consonant. In the present perfect, no schwa appears because there is no need for epenthesis. The consonantal clitic can syllabify as the onset of the following vowel (the auxiliary verb).[9]

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[9]. Whereas in simple tenses, the third person singular masculine clitic is different from the feminine one, in compound tenses the third person singular form is the same for masculine and feminine.

(i)   [əl be:və] 'he drinks'   [l a bu'vi:d] 'he has drunk'

(ii)   [la be:və] 'she drinks'   [l a bu'vi:d] 'she has drunk'

(22) 'alternative' analysis

    t   +   ɛ bu'vi:d   >   t ɛ bu'vi:d

    l   +   a bu'vi:d   >   l a bu'vi:d

    |

  subj.cl.

We predict that the same pattern would hold for lexical verbs beginning with a vowel, but we cannot check this prediction since, to our knowledge, there are no vowel-initial verbs in this dialect.

2.1.3. Complementizer + Subject Clitic

When the verb in (3a) is preceded by the complementizer [ke], the sequence is realized as [ke ət]/[ke əl] or [ket]/[kel]. Crucially, it is never realized as *[kət]/[kəl].

(23) /so + ke + t + be:v/   a. [ke ət]   b. [ke t]   c. *[k ət]

    'I know that you:sg drink'   (careful speech)

    /so + ke + l + be:v/   [ke əl]   [ke l]   *[k əl]

    'I know that he drinks'   (careful speech)

The forms in (23a) are found in careful speech (see note 7), while the forms in (23b) are the ones found in normal speech where the consonantal clitic syllabifies with the preceding complementizer, and the epenthetic vowel is not needed. The forms in (23c) are never found because it is not possible to delete the vowel of the complementizer in a

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The reason is now clear. In the masculine form the schwa is present in the simple tense because an epenthetic vowel is needed in that context, but it is not found in the compound tense because there is no need for epenthesis. In the feminine form, an epenthetic vowel is never needed (see note 7); in the compound tense the unstressed /a/ of the feminine clitic merges with the stressed /a/ of the auxiliary.

(i') /l be:və/ > [əl be:və]   /l a bu'vi:d/ > [l a bu'vi:d]

(ii') /la be:və/ > [la be:və]   /la a bu'vi:d/ > [l a bu'vi:d]

context in which it is then necessary to insert an epenthetic vowel. (See (30c) and (38c) below for two contexts in which the deletion of the vowel of the complementizer is possible).[10]

2.1.4.   Conclusions

In conclusion, we propose that the second and third person singular form of the subject clitic pronoun consists of a single consonant — /t/ or /l/ — and that the preverbal vowel in (3a) is an epenthetic vowel. We believe that Donceto is not unique in this respect and that our analysis holds for other dialects as well (as we will illustrate below).

(24)   a.   2nd singular subject clitic: /t/

3rd singular subject clitic: /l/

b.   the preverbal vowel in (3a) is epenthetic.

Syntactically, the second and third person singular consonantal clitics of Donceto have the same distribution as their counterparts in other dialects. Both clitic pronouns must be repeated in coordinations (25) (see Poletto 2000: 27-28).

(25)   ə t kã:t kõ me e *(t) bal kõ ly   'you:sg sing with me and dance with him'

ə l mã:dʒa la polɛnta e *(l) be:və əl vɛŋ 'he eats the polenta and drinks the wine'

Also, as in other dialects, the third person occurs above negation (26) (see Poletto 2000: 19).[11] Since the second person in Donceto does not occur with preverbal negation, its

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[10].   If our analysis of the third person singular clitic can be extended to the Veneto dialect of Loreo, the sequence [kel] should not be analyzed as in (i) (see note 5 above), but as in (ii), where the vowel /e/ is part of the complementizer.

(i)   Ara ch'el vien.   'look that he comes'   (Poletto 2000: 21)

(ii)   Ara che'l vien.

[11].   Note that two epenthetic vowels are used to syllabify the phrase in (26). Phonologically, there is no reason why a single epenthetic vowel cannot be used, as in *[lən be:v mia], but this is not found. The

position with respect to negation cannot be checked. In the related dialect of Gazzoli, however, where the second person clitic can cooccur with negation, it occurs below negation (27) (see Poletto 2000: 19 and footnote 11 which holds for the Gazzoli patterns in (27) as well).

(26) l   n   be:v   mia > /l n be:v mia/ > [əl nə be:v mia] 'he does not drink'
      | | | |
      cl. *neg.* *drink* *neg.*

(27) Gazzoli:

      n   t   be:v   mia   > /n t be:v mia/ > [ən tə be:v mia] 'you:sg do not
      | | | | drink'
      neg. *cl.*   *drink* *neg.*

Phonologically, the quality and position of the vowel in the Donceto clitics in (3a) are identical to the quality and placement of the epenthetic vowel. In other dialects many different forms of the second and third person singular subject clitics are found. (See Poletto 1999: 586 and Vanelli 1984: 288-289 for a sampling of the forms found in northern Italian dialects.)

(28) second person singular: [at], [et], [it], [ət], [ot]
                                  [ta], [te], [ti], [tu]
      third person singular: [al], [el], [il], [əl], [ol], [ul]

The consonantal clitics can combine with different epenthetic vowels in the various dialects, and the position of the epenthetic vowel may vary from dialect to dialect. Notice that while only /Vl/ forms are found for the third person singular, both /Vt/ and /tV/ structures are attested for the second person singular. In those dialects that have /Vt/ and /Vl/ (like Donceto) the patterns of epenthesis are those illustrated in §2.1.1. In those dialects that have /Vl/ and /tV/ structures (like Paduan, see §4.3), sonority

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negative marker and the consonantal subject clitic are never syllabified together for reasons that are not discussed in this paper.

constraints on syllabification result in low-sonority-/t/ being syllabified as an onset and high-sonority-/l/ as a coda. (See Repetti 1995a and to appear for a discussion of the Emilian and Romagnol dialects in which low sonority consonants are syllabifed as onsets and high sonority consonants as codas, as in the case of Riolo in the province of Ravenna: /korn/ > [korn<u>e</u>] 'horn' vs. /tɔrl/ > [tɔr<u>el</u>] 'yolk'.)

2.2.   Third Person Plural [i]

We now investigate the nature of the preverbal vowel [i] found in (3b). The obligatory preverbal vowel present in the third person plural form is not sensitive to the phonological context. It is mandatory with all verbs, regardless of their initial sound: consonant-initial verbs (29a), /s/ + consonant-initial verbs (29b), and vowel-initial auxiliaries (29c). Given these observations and the fact that its quality is not that of an epenthetic vowel, we conclude that it is not an epenthetic vowel.[12]

(29) a. i be:vən   'they drink'
      b. i skri:vən   'they write'
      c. i an bu'vi:d   'they have drunk'

This conclusion is supported by data involving the cooccurrence of the subject pronoun with the complementizer: the behavior of the third person plural pronoun [i] in (30) is different from the behavior of the preverbal vowel in (3a) (see (23)).

(30)   /so + ke + i + be:vən/   a. [ke i]   b. *[ke]   c. [k i]
       'I know that they drink'   (careful speech)

In (30a) both the preverbal vowel and the vowel of the complementizer are present. In (30b) the preverbal vowel cannot be deleted since it is obligatory. In (30c) the vowel of the complementizer can be deleted in rapid speech because of an optional phonological rule which results in the deletion of one of two adjacent unstressed vowels. The choice of the vowel to be deleted — the vowel of the complementizer or the vocalic clitic pronoun — is made on the basis of faithfulness constraints on input forms: MAX: faithfulness to the pronoun /i/ is more important than faithfulness to the vowel of the

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[12].   The form in (29c) has an alternative pronunciation with gliding of the prevocalic [i]: [j an bu'vi:d].

complementizer since part of the complementizer, /k/, remains after its vowel is deleted. Comparing (30) with (23) we see that the preverbal [i] and [ə] behave differently. Preverbal [i] cannot be deleted (30b), while preverbal [ə] is not mandatory (23b). In addition, the vowel of the complementizer can be deleted and the /k/ syllabified with [i] (30c), but not with [ə] (23c). The fact that (30c) is a possible form shows that the impossibility of the form in (23c) cannot be due to a requirement that [ke] remain unchanged. I. e., if we compare (23c) and (30c) we see that the vowel of the complementizer can indeed be deleted (see also (38c)). These observations support our analysis of the preverbal vowel in (3a) and (3b) as different from each other. While the preverbal schwa in (3a) is an epenthetic vowel, the preverbal [i] in (3b) is not.

Further evidence supporting these observations comes from data from the dialect of Gazzoli, which is nearly identical to the dialect of Donceto. One significant difference between the two dialects is that in Gazzoli the third person masculine singular subject clitic is (obligatory) [õ], not [əl]. Following a complementizer we find the data in (31).

(31) /so + ke + õ+ bɛjvə/   a. [ke õ]   b. *[ke]   c. [k õ]
      'I know that he drinks'   (careful speech)

Like the vocalic clitic [i] (third person plural) of Donceto, the vowel [õ] is a vocalic clitic (third person singular) and not an epenthetic vowel. The optional phonological rule which deletes one of the two adjacent unstressed vowels results in the deletion of the final vowel of the complementizer (compare (31c) with (30c)), but not the obligatory vocalic clitic (compare (31b) with (30b)).

Our preliminary conclusion is that the third person plural preverbal vowel in (3b) is not an epenthetic vowel, but is a subject clitic. It fits into Poletto's (2000) typology of vocalic subject clitics in northern Italian dialects, and like its counterparts in other dialects we can take it to encode the feature [+number]. Similar to other dialects, it occurs higher than negation (32a), and it cannot be omitted in coordinations (32b).

(32) (a)   i n be:vən mia   'they do not drink'
      (b)   i kã:tən kõ te e *(i) balən kõ ly   'they sing with you and dance with him'

2.3.   The Analysis of Clitic Placement

The three subject clitic pronouns individuated so far — /t/, /l/, /i/ — undergo the typical

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clitic derivation. Following Kayne (1975), we adopt a derivational approach to clitic placement. Sportiche (1989) and Cardinaletti and Starke (1999) interpret the derivation as a two-step movement: XP movement followed by X (head) movement.

This view of clitic derivation accounts for the fact that clitic pronouns occupy a structurally higher position with respect to weak pronouns, which only undergo the XP-movement step. This can be shown both for object pronouns, as in Italian (33), where the dative clitic pronoun *gli* occupies a structurally higher position with respect to the dative weak pronoun *loro*, and for subject pronouns, as in French (34), where the enclitic subject *il* found in interrogative sentences is taken to occur higher than the weak subject *il* found in declarative sentences (Kayne 1983, Rizzi 1986, Rizzi and Roberts 1989, Cardinaletti and Starke 1999:§3.1-2, Vecchiato 2000, among many others).[13]

(33) a. Maria ha dato loro$_i$ un libro t$_i$. 'Mary has given [to] them a book'
  b. Maria gli$_i$ ha dato t$_i$ un libro t$_i$. 'Mary [to] him has given a book'

(34) a. [$_{AgrSP}$ il$_k$ a$_i$ … [$_{VP}$ t$_k$ bu]] 'he has drunk'
  b. [$_{YP}$ a$_i$-t-il$_k$ [$_{AgrSP}$ t$_k$ t$_i$ … [$_{VP}$ t$_k$ bu]]] 'has-he drunk?'

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[13]. For the present concerns, it is not crucial to establish exactly to which head the verb moves in French interrogative sentences. In (34b), we have called this head Y, analogous to what we suggest for Donceto where the interrogative verb cannot move higher than the Y head since it linearly follows the vocalic segment sitting in the Z head (see (66b) and (66c) in §3.4 below). In any case, there is some evidence that the verb undergoes short movement to a position of the Infl layer and does not reach a head of the COMP layer. Lack of V-to-C movement in interrogative sentences seems to be a property of Romance languages which differentiates them from Germanic languages. Among others, see Kayne (1994: 44, 139, n.15) and Sportiche (1999) for French, Suñer (1994) for Spanish, Munaro (1997), (1999) for other northern Italian dialects, and Cardinaletti (2001) for Italian. A consequence of the Germanic vs. Romance difference is the different distribution of strong subjects, which can follow the raised verb in the former (i) but not in the latter (ii) (see Cardinaletti 2001 for discussion).

(i) a. Did John come?
  b. *German*: Ist Hans gekommen? 'has Hans come?'

(ii) a. *French*: *A Jean bu? 'has Jean drunk?'
  b. *Italian*: *Ha Gianni bevuto? 'has Gianni drunk?'
  c. *Donceto*: *A(-l) Giani buvi:d? 'has(-he) John drunk?'

The analysis of object clitics in (33b) and the analysis of French subject clitics in (34b) can be extended to the three subject clitics individuated in Donceto, as shown in the derivation (35) for the third person singular. We take the clitic pronoun to adjoin to the X head (whose nature will be discussed in §5.4 and §5.5 below), which is higher than the position occupied by the French weak pronoun *il* in (34a), namely specAgrSP in pre-minimalist terms.

(35) $[_{XP}$ əl$_k$ be:və$_i$ $[_{AgrSP}$ t$_k$ t$_i$ … $[_{VP}$ t$_k$ t$_i$]]]   'he drinks'

Notice that the proposal in (35) differs from previous analyses of subject clitics in northern Italian dialects (such as Rizzi 1986, Brandi and Cordin 1981, 1989, Suñer 1992, Sportiche 1999, Poletto 2000: 19, among others). The previous analyses take the subject to be *pro* and subject clitics to be the realization of the Inflection head (in minimalist terms, subject clitics are merged in the Inflection head(s)). A subject clitic is often taken to enrich the Infl head so that it can license the null subject (see §5.6 for discussion). The previous analyses of subject clitics are all variants of a Sportiche-like approach to clitic placement. Sportiche (1996) assumes that a clitic pronoun always realizes a clausal functional head, whose specifier is related to the DP argument, which can be an overt DP or *pro*.[14]

The previous analyses and the one we are proposing in this article cannot be easily distinguished empirically. As in the case of object clitics, the fact that a subject clitic can cooccur with a strong pronoun (36a) or a DP (36b) in clitic doubling says nothing on the status of the clitic pronoun when it occurs by itself. The clitic pronoun might indeed cooccur with *pro*, as Sportiche (1996) suggests, or be moved from the thematic position, as in the traditional derivational analysis by Kayne (1975).

(36) a. ly əl be:və əl vɛŋ   'he drinks wine'
       b. l ɔm əl be:və əl vɛŋ   'the man drinks wine'

Since Sportiche's analysis is not without problems (cf. Cardinaletti and Starke 1999:

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[14].   As noted by Suñer (2000: fn.18), Manzini and Savoia's (1999) analysis implies that northern Italian dialects are not null-subject languages. In this respect, their analysis is similar to ours, at least for the second person singular and the third person singular and plural.

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227, n. 82), the traditional analysis according to which clitic pronouns move from the thematic position and undergo the two-step derivation remains a plausible account of clitic placement. The discussion which follows will show that the proposal in (35) has a number of welcome consequences for the analysis of subject clitics in northern Italian dialects.[15]

2.4. First Person Singular, First Person Plural and Second Person Plural Optional Schwa: Epenthetic Vowel or Vocalic Clitic?

We concluded above that the preverbal vowel in (3a) is not a vocalic subject clitic, but is an epenthetic vowel, and that the preverbal vowel in (3b) is a true subject clitic. We will now consider the nature of the preverbal vowel in (3c).

2.4.1. Epenthetic Vowel?

We first note that this schwa is not sensitive to the phonological context. It is optional with all verbs, independent of their initial sound (37).[16]

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[15]. Two clitics seem to cooccur with *pro* in Italian, namely *ci* in presentational sentences such as (i) and impersonal *si* in sentences such as (ii).

(i) C'è un libro sul tavolo.   'there is a book on-the table'

(ii) Si è lavorato bene.   'SI is worked well' ('we have worked well')

It seems to us that neither of these cases can be compared to the subject clitics found in northern Italian dialects. The *ci* clitic in (i) can be analyzed as an locative object clitic (see Moro 1997 for a recent analysis), and the *si* clitic in (ii) is homophonous to a reflexive, object clitic (see Cinque 1988).

[16]. Unexpectedly, the schwa optionally appearing in the first person singular and plural and in the second person plural cannot cooccur with the auxiliary "have".

(i) a. (*ə) o buvi:d   'I have drunk'
     b. (*ə) um buvi:d   'we have drunk'
     c. (*ə) i buvi:d   'you:pl have drunk'

(37) a. (ə) be:v   'I drink'

b. (ə) skri:v   'I write'

While we have shown that the preverbal vowel in (3a) is an epenthetic vowel, we can conclude that the preverbal vowel in (3c) is not an epenthetic vowel.

Despite their identical phonological form, we have additional evidence that the two vowels in (3a) and (3c) are different. When the verb in (3c) is preceded by the complementizer [ke], the pattern is different from that found with the schwa in (3a).

(38) /l + sa + ke + (ə) + be:v/   a. [ke ə]   b. [ke]   c. [k ə]

'he knows that I drink'   (careful speech)

The form in (38a) is found in careful speech and consists of both the vowel of the complementizer and the optional preverbal vowel. In (38b) the optional preverbal vowel is absent, and in (38c) the optional preverbal vowel is present, but the vowel of the complementizer is deleted. In (38) we see that optional vocalic segment [ə] can appear after the complementizer (38a), or can be deleted (38b). But notice in (38c) that the final vowel of the complementizer can be dropped when followed by the vocalic segment.

Comparing the data in (23) and (38), we notice that the vowels in (3a) and (3c) behave differently: the vowel in (3a) cannot replace the vowel of the complementizer (23c), while the vowel in (3c) can replace the vowel of the complementizer (38c). These data confirm the proposal that the vowel in (3c) is different from the vowel in (3a) and is <u>not</u>

Schwa can cooccur with the auxiliary "be". (However, Renzi and Vanelli (1983: 129) claim that in Piacenza the preverbal vowel comparable to schwa is not possible with either auxiliary.)

(ii) a.   (ə) so na via   'I am gone away' (I went away)

b.   (ə) sum na via   'we are gone away' (we went away)

c.   (ə) si na via   'you:pl are gone away' (you went away)

We propose that the ungrammaticality of (i) must be due to a phonological (not syntactic) restriction, and specifically a constraint against schwa + stressed vowel. (Notice that the "have" forms are vowel-initial, while the "be" forms are consonantal-initial.) See also note 23.

epenthetic.[17]

Comparing (38) with (30) we see that the preverbal vowel [ə] also behaves differently from the vowel [i]: in (33b) we see that the preverbal schwa is optionally absent, while in (30b) we see that the preverbal [i] may not be deleted. This is not surprising given the fact that the preverbal [ə] is optional in main clauses (3c), while preverbal [i] is mandatory (3b). On the other hand, both preverbal vowels can replace the vowel of the complementizer (compare (38c) with (30c)). These observations support our analysis of the preverbal vowel in (3b) and (3c) as a syntactic element that can replace the vowel of the complementizer, while the preverbal vowel in (3a) is an epenthetic vowel that cannot replace the vowel of the complementizer.

2.4.2. Subject Clitic?

We have seen that the optional preverbal vowel present in the first person singular, first person plural, and second person plural forms is not an epenthetic vowel. There is reason to believe that it is not a subject clitic either. One difference between the subject clitics in (3a) and (3b) and the preverbal schwa found in (3c) is that the former are obligatory, while the latter is optional. Secondly, the Donceto vocalic segment in (3c) does not fit into Poletto's (2000) typology of vocalic subject clitics in northern Italian dialects: its behaviour is not shared by any of the classes of clitics listed in (7).

The schwa in (3c) behaves like Poletto's invariable clitics in that it occurs higher than negation (39a) and cannot be repeated in coordinations (39b). Compare (39) with the data from the Veneto dialect of Loreo: *A no vegno* 'I not come' (Poletto 2000: 18); *A canto co ti e balo co lu* 'I sing with you and dance with him' (Poletto 2000: 24). (Note that the vowel preceding the negation in (39a) can be considered the optional vowel under discussion or an epenthetic vowel; see (19) above.).

(39) a. ə   n   be:v   mia   > [ə n be:v mia]   'I do not drink'
          | | | |
          cl.   neg.   drink   neg.
      b. (ə) kã:t kõ te e (*ə) bal kõ ly   'I sing with you and dance with him'

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[17].   In turn, the contrast between *[k ət]/*[k əl] in (23c) and [k ə] in (38c) confirms the conclusions reached in §2.1 that in the second and third person singular, the schwa is epenthetic and is not the same schwa as in (3c). If the schwa in (23c) were not epenthetic, (23c) should be grammatical, as is (38c).

However, the vowel in (3c) cannot be considered an invariable clitic. First, it does not express any theme/rheme distinction, but is fully optional. Second, its distribution in the paradigm (first person singular and plural and second person plural) is different from invariable clitics, which are found in other dialects in all persons of the paradigm.[18] Third, while the vocalic clitics studied by Poletto obligatorily cluster with the complementizer (cf. the Veneto dialect of Loreo: *Ara che a vegno* vs. *Ara ch'a vegno* "look that I come", Poletto 2000: 21), the vocalic segment in (3c) does not: see [ke ə] in (38a).

The preverbal schwa in (3c) is also different from the class of deictic vocalic clitics studied by Poletto. First, its distribution in the paradigm is different from deictic clitics, which are found in the first and second person and usually contrast with a pronoun used for the third person (identical for singular and plural). Second, while the schwa must be omitted in coordinations (see (39b)), deictic clitics cannot be omitted in the second conjunct of a coordination structure (cf. Friulian: *I cianti cun te e *(i) bali cun lui* 'I sing with you and dance with him', Poletto 2000: 26). Finally, the preverbal schwa in (3c) cannot be a vocalic number subject clitic because it has a different distribution in the paradigm.

These observations, as well as other properties manifested in wh-questions (see §3.2.3 and §3.3 below), suggest that the vocalic segments in (3c) do not fit Poletto's typology of vocalic subject clitics.

If the schwa in (3c) is not an epenthetic vowel and is not a subject clitic either of the type in (3a) and (3b) or of the type identified by Poletto and summarized in (7), how can we characterize it? Two analyses come to mind. First, the Donceto vowel in (3c) might represent an additional class of vocalic subject clitics not listed in (7) above. Second, the Donceto vowel in (3c) might represent the (optional) realization of a functional head. In the following sections, evidence supporting the second analysis is provided.[19]

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[18]. Notice that it is not possible to hypothesize that the schwa is present in all persons of the paradigm. For the fact that the schwa in (3a) is not the same as the schwa in (3c), see note 17. And the presence of schwa in (3b) is ungrammatical.

[19]. Data from other northern Italian dialects suggest that the Donceto dialect is not unique in displaying pronouns that do not enter the classification in (7). Poletto (1999: 602) herself claims that complementizer and vocalic subject clitics are not adjacent in all varieties, which suggests that the syntactic clustering between the complementizer and the clitics is not always required. Furthermore, Poletto (1999: 591) provides examples of Piedmontese deictic clitics that are similar to the Donceto data in (39b) in that the vocalic segment is not repeated in coordinations: *I cantu cun ti e balu cun chiel* 'I sing

2.4.3. The Subject-Field Head Hypothesis

Since the preverbal schwa in (3c) is optional, and if, as we argue, it is not a subject clitic, the question arises as to which element takes the subject role when the schwa is not present. We propose that in the first person singular and plural and the second person plural, the subject is a null weak pronoun (*pro*), much as in Italian. Thus, Donceto is a pro-drop language in these three persons of the paradigm, while it is non-pro-drop in the second person singular and in the third person singular and plural. (See §5.4 below for an account of this distribution.)

(40)

	sg.	pl.
1st	*pro*	*pro*
2nd	t	*pro*
3rd	l	i

If the preverbal schwa in (3c) is not a subject clitic, what is it? We take it to be the (optional) realization of the functional head that hosts the features of first person singular and plural and second person plural. In (41), we call it Z, and we show the derivation for the first person singular.

(41) $[_{ZP}$ (ə) $[_{AgrSP}$ pro_k $be:v_i$ … $[_{VP}\ t_k$ $t_i\ ]]]$ '[I] drink'

Following current assumptions and exploiting Pollock's (1989) split-Infl hypothesis, we take ϕ-features to be encoded in functional heads. The traditional Infl projection must be split into discrete projections each realizing a ϕ-feature or a set of ϕ-features (see

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with you and dance with him'. Finally, Goria (2002) shows that two Piedmontese dialects (Turinese and Astigiano) that seem to have deictic and invariable clitics, respectively, in fact display an optionality in the paradigms that makes them resemble the Donceto paradigm (also see Parry 1993).

(i)	Turinese	Astigiano	
1st sg.	(i) mangio	(a) mangio	I eat
2nd sg.	it mange	at mange	you:sg eat
3rd sg.	a mangia	a mangia	he eats
1st pl.	(i) mangioma	(a) mangioma	we eat
2nd pl.	(i) mange	(a) mange	you:pl eat
3rd pl.	a mangio	a mangio	they eat

All these data might be reconsidered along the lines suggested here for the Donceto dialect.

Shlonsky 1989, Manzini and Savoia 2000, Poletto 2000, among others). Z in (41) is one of these Infl projections, which build a "subject-field".

In the articulation of the clause structure assumed in Rizzi (1997), the Infl and the Comp layers have different roles in the clause: the Infl layer is the locus of morpho-syntactic features of the verb, while Comp is an interface between the propositional content (expressed by everything dominated by AgrSP) and the superordinate structure or the previous discourse.

(42)   ForceP TopP* FocusP FinP   AgrSP TP ……   VP
         |_____Comp layer_____| |____Infl layer____| |__ verb layer__|
           |_____functional layer_____| |_ lexical layer _|

Assuming (42), the functional heads that encode ϕ-features are located in the Infl layer. We conclude that ZP is located in the subject-field of the Infl layer, and from now on we call the vowel in (3c) a "subject-field vowel". This conclusion is consistent with the syntactic distribution of the vowel in (3c), which does not interact with the Comp layer in any way. As we have seen above, the Donceto schwa does not mandatorily cluster with the complementizer (see [ke ə] in (38a)).[20]

The fact that the 'subject field vowel' occurs before negation, as shown in (43a), cannot be taken to show that the schwa is in the Comp layer, since (non-topicalized, non-focalized) full subjects, which can also precede negation ((43b) and (43c)), do not occur in the Comp layer, but in a designated subject position, specSubjP, located in the Infl layer (see Cardinaletti 1997, 1999, 2001, and the references cited there).

(43) a. ə n be:v mia   'I do not drink'
      b. me (ə)n be:v mia   'I do not drink'
      c. Giani əl nə be:və mia   'John does not drink'

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[20].   Poletto (2000: 36) locates vocalic (invariable and deictic) subject clitics in the Comp layer on the basis of the fact that they cluster with the complementizer (see §2.4.2 above).

(i) [CP inv.SCL_i [CP deict.SCL [FP t_i [IP [NegP [NumbP SCL [HearerP SCL [SpeakerP V_i [TP t_i]]]]]]]]]

For further discussion of this hypothesis, see note 33.

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Notice that the schwa preceding the negation in (43a) and (43b) can be considered either the subject-field vowel or an epenthetic vowel (see (19) and §2.4.2). In the former analysis of the schwa in (43b), the subject-field vowel follows the strong subject pronoun *me*. Since strong subjects occur in specSubjP in the Infl layer, the word order in (43b) is further evidence that the Z head is part of the Infl layer. In §3.4 below we discuss another piece of evidence that ZP is in Infl.[21]

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[21].   The questions arises as to what features characterize the Z head. Notice that the three persons of the paradigm realized by the vocalic segment (first person singular and plural and second person plural) seem to have no feature in common. This is illustrated in the following table, where [-number] stands for reference to a singular, [+number] stands for reference to a plural; the first person plural is [+addressee] in its inclusive meaning ('I and he/she/they, and you'), [–addressee] in its exclusive meaning ('I and he/she/they, but not you'). The features [speaker] and [addressee], which express the category "person", go back to Benveniste (1971:ch. XVIII, XX).

(i)	Number	Addressee	Speaker
1st pers.sg.	−	−	+
2nd pers.sg.	−	+	−
3rd pers.sg.	−	−	−
1st pers.pl.	+	±	+
2nd pers.pl.	+	+	−
3rd pers.pl.	+	−	−

If the (identical) vowel found in the first person singular and plural and second person plural is not a simple case of homophony, the question arises as to how one and the same vocalic segment can realize three persons of the paradigm that do not have any feature in common. Suppose that what is wrong in (i) is the value attributed to the number feature. Kayne (1989b)argues that the first person singular is indeed not singular. Suppose that the first person singular is grammatically unmarked for number and that the same is true for the first and second person plural, in view of the possibility that they can refer to both a singular and a plural. For the first person plural, reference to a singular corresponds to the so-called 'Pluralis majestatis', which is used when the speaker refers to himself as "we"; for the second person plural, reference to a singular corresponds to the 'voi di cortesia', which is used to mark distance and/or respect towards the addressee. The feature make-up of pronouns proposed here is illustrated in table (ii).

(ii)	Number	Addressee	Speaker
1st pers.sg.	α	−	+
2nd pers.sg.	−	+	−
3rd pers.sg.	−	−	−
1st pers.pl.	α	±	+
2nd pers.pl.	α	+	−
3rd pers.pl.	+	−	−

2.5. Evidence from Cross-Linguistic Data

We have shown so far that only the second person singular and the third person singular and plural are realized by subject clitics, /t/, /l/ and /i/, respectively, while the preverbal vowels in (3c) are a different syntactic entity. This analysis can be extended to other northern Italian dialects that have a similar distribution of preverbal vocalic material. Cross-linguistic data provide further support for our proposal. While there is very little language variation in the phonological forms of proclitic pronouns of the second person singular and third person singular and plural (44a) (see also (28)), the preverbal vowels comparable to [ə] in (3c) found in other northern Italian dialects display great cross-linguistic variation in their phonetic realization, as shown in (44b), which provides a non-exhaustive list (see Browne and Vattuone 1975, Vattuone 1975, Vanelli 1984, Poletto 1993a, 2000).

(44) a. subject clitics:

       second person singular: vowel + /t/; /t/ + vowel

       third person singular (mas):   vowel + /l/[22]

       third person plural (mas):   (l)i

   b. subject field vowel:

       first person singular and plural and second person plural:

       [a]   Friulian, Emilian, Romagnol, Lombard, Piedmontese, and Veneto dialects

       [e]   Piedmontese and Tuscan dialects

       [ə]   Emilian dialects

       [i]   Friulian and Piedmontese dialects

       [o]Tuscan and Friulian dialects

       [u]Ligurian and Emilian dialects

First person singular and plural and second person plural have one feature in common: the lack of number specification, marked as "α" in table (ii). The Donceto vocalic segment in (3c) realizes the persons of the paradigm characterized by [αnumber].

[22].   Wealso find [o] and [u] which are the result of velarization of coda /l/. See Vanelli (1992) for the velarization of coda /l/ resulting in the masculine singular definite article [ol] and [ul] in various dialects.

The subject clitics representing the second and third person singular consist of (at least) /t/ and /l/, respectively, *in all dialects*, and the subject clitic representing the third person plural consists of (at least) /i/ *in all dialects*. This cross-linguistic consistency (44a) contrasts sharply with the great variation found in (44b). Our proposal is compatible with such a distribution: the forms in (44a) and (44b) are two different syntactic entities with different historical developments (see §3.8 for discussion). Alternative proposals that view all forms in (44) as subject clitics cannot account for the cross-linguistic differences between (44a) and (44b).

2.6. Evidence from Neurolinguistic Data

The Veneto dialects provide another source of evidence that the true subject clitics should be differentiated from the preverbal vowels in (3c). The evidence comes from data of mild agrammatic aphasic patients. Aphasic patients speaking Veneto dialects (Venetian, Vicentino, etc.) omit subject clitics corresponding to *t/l/i* most of the times (both in sentence completion and sentence repetition tests and in spontaneous production). However, the vocalic segment corresponding to preverbal schwa is totally preserved in Vicentino (Chinellato 2002a).

If the *t/l/i* elements are subject clitics while the vocalic segment corresponding to the schwa in (3c) is not, a possible understanding of these data is that aphasic patients cannot handle the syntax of clitic pronouns. Notice that these aphasic patients master verb agreement quite well, both in the dialect and in Italian, so it cannot be concluded that they have problems with the φ-features encoded by *t/l/i*, but not with the φ-features encoded by the vocalic segment. These patients also have troubles with object clitics. In the Guided Picture Naming and Repetition tests, they have chance-level results (Chinellato, personal communication). These results confirm the hypothesis that they have a deficit with the derivation of clitic pronouns, but not with the syntactic element realized as a vocalic segment. If both the *t/l/i* elements and the preverbal schwa were all subject clitics, there would be no way of accounting for such a selective deficit.

2.7. Conclusions

We conclude that not all preverbal material in (3) is a subject clitic. The only elements that can be considered subject clitics are the consonants /t/ and /l/ in the second and third person singular, respectively, and the vocalic segment /i/ in the third person plural. A first approximation of the 'alternative' analysis of preverbal material discussed so far is given in (45).

(45) a. ə   t   be:v   'you:sg drink'

        ə   l   be:və   'he drinks'

        | |

  epen. vowel   subj. clitic

    b. i   'be:vən   'they drink'

       |

    subject clitic

    c. (ə)   be:v   'I drink'

       (ə)   bu'vum   'we drink'

       (ə)   bu'vi   'you:pl drink'

       |

  subject-field vowel

In the next section we will see that there are other problems with the 'unified' analysis since it cannot account for the behavior of preverbal vowels in questions. The 'alternative' analysis, on the other hand, allows us to capture in a coherent way many phenomena that at first seem unrelated.

3. Preverbal Vowels in Interrogative Sentences

3.1. The Nature of Preverbal Vowels in Interrogative Sentences

Consider the interrogative data in (4), which are repeated in (46) for convenience.

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(46)   yes-no questions:

	without preverbal vowel	*with preverbal vowel*	
a.	be:v-ət	ə be:v-ət	'are you:sg drinking?'
	be:və-l	ə be:və-l	'is he drinking?'
b.	be:vən-jə	ə be:vən-jə	'are they drinking?'
c.	be:v-jə	ə be:v-jə	'am I drinking?'
	bu'vum-jə	ə bu'vum-jə	'are we drinking?'
	bu'vi:-v	ə bu'vi:-v	'are you:pl drinking?'

What is the nature of the preverbal schwa which optionally appears in all forms? We attempt to answer this question in the paragraphs that follow.

3.1.1.   Epenthetic Vowel?

Since the quality of the preverbal vowel in questions is the same as that of the epenthetic vowel, we may ask whether it is epenthetic. The answer is clearly "no" since, as seen in (47), this vowel is not sensitive to the phonological context.[23]

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[23].   In note 16, we saw that the subject-field vowel is impossible with the vowel-initial auxiliary "have" although it is possible with the consonant-initial auxiliary "be", and we concluded that this distribution is due to a constraint against schwa + stressed vowel. This conclusion is supported by the interrogative data. The preverbal vowel, which is optional in yes-no questions in all forms, is only found with consonant-initial auxiliaries, but not with vowel initial ones. In (i) we see that the preverbal vowel found in yes-no questions is not possible with vowel-initial auxiliaries (regardless of whether they are forms of 'have' or 'be'), but in (ii) we see that it is possible with consonant-initial auxiliaries (specifically, [so], [sum], [si], which are forms of the auxiliary 'be'; there are not consonant-initial forms of 'have').

(i)   vowel-initial auxiliaries

    a.   (*ə) a-l buvi:d?   'has he drunk?'

    b.   (*ə) ɛ-l na via?   'is he gone away?' ('has he left?')

(ii)   consonant-initial auxiliaries

    a.   (ə) so-jə na via   'am I gone away' ('have I left?')

Since both the subject-field vowel and the vowel found in yes-no questions, which are different syntactic entities, can optionally occur with consonant-initial auxiliaries, but not with vowel-initial auxiliaries, we conclude that the restriction is phonological, and not syntactic.

(47)   (ə) be:v-jə   'am I drinking?'

        (ə) skri:v-jə   'am I writing?'

3.1.2.   Subject-Field Vowel?

Another possibility is that the schwa found optionally in questions is the same element as the schwa found optionally in the first person singular and plural and second person plural forms in the declarative sentences in (3c). Both are optional and phonologically identical. However, this analysis is also flawed since the preverbal schwa found in declarative sentences is limited to three persons, while the preverbal schwa found in interrogative sentences is found in all forms of the paradigm. If they were one and the same element, the different distribution in declarative and interrogative sentences would remain puzzling.

3.1.3.   Subject Clitic?

Is the preverbal vowel found in questions a subject clitic? We have identified two types of subject clitic pronouns: a consonantal type (second and third person singular) and a vocalic type (third person plural), both of which are obligatory.

One difference between subject clitics and the preverbal schwa found in questions is that the former are obligatory, while the latter is optional. Another difference can be observed in the third person plural form. Preverbal schwa appears in interrogative sentences (48b) while it is absent in declarative sentences (48a), and the quality of the two elements is different: [i] vs. [ə].

(48)   a.   [(*ə) i be:vən]   'they drink'   (= 3b)

        b.   [(ə) be:vən-jə]   'do they drink?'   (= 4b)

A similar point can be made on the basis of data from the dialect of Gazzoli. In the declarative sentence in (49a), the preverbal position is occupied by the third person vocalic subject clitic [õ], while preverbal schwa is optionally found in the interrogative sentence in (49b).

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(49) a. [(*ə) ð bɛjvə]   'he drinks'
     b. [(ə) bɛjvə-l]   'is he drinking?'

In conclusion, the preverbal schwa in (4) cannot be considered a subject clitic with the same characteristics as the other subject clitics individuated so far for the dialect of Donceto.

Since it occurs in all persons of the paradigm, the preverbal vowel in (4) might be considered an instance of invariable subject clitics in Poletto's sense, which in other dialects also occur in all persons of the paradigm and can occur in yes-no questions (data from Paduan, first discussed in Benincà 1983).

(50) a. A no te parli mai.   'A not you:sg speak ever' ('you never speak')
          A no'l parla mai.   'A not he speaks ever' ('he never speaks')
     b. A ve-to via?   'A go-you:sg away?' ('are you going away?')
          A ze-lo ndà?   'A is-he gone?' ('is he going away?')

The preverbal vowel in (4), however, differs from invariable subject clitics found in other dialects in that it is restricted to interrogative sentences and not found in declarative sentences. It is not obvious that this difference can be expressed in a non-*ad-hoc* way: should the invariable clitic be marked as interrogative in the dialect of Donceto? Or does it belong to another class of vocalic subject clitics not listed in (7)?

A further problem with the analysis of the preverbal vowel in (4) as an invariable subject clitic has to do with the fact that it cooccurs with postverbal enclitics. (See §4 for the analysis of enclitic pronouns.) In a derivational approach to clitics such as the one adopted here (see Kayne 1975 and §2.3 above), there cannot be two subject pronouns moving from one and the same position. Nor can two clitics, in a configurational approach to clitics (see Jaeggli 1982), be linked to one and the same position. If the configuration in (4) were an instance of clitic doubling, the question arises as to why doubling is possible in interrogative sentences but not in declarative sentences (compare (3b) with (4b); also see §4.2.3).

These questions are also raised with regard to the distribution of vocalic clitics in other dialects. In Paduan, for example, preverbal *a* cooccurs with postverbal *to* and *lo* (50b), and invariable clitics also appear in declarative sentences with other subject clitics (50a).[24] Since these same problems are found regarding both interrogative and

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[24].   Similar questions arise with regard to the deictic clitics in Friulian (10).

declarative sentences, there are serious doubts as to the existence of a class of invariable subject clitics.

As noted by Poletto (2000: 23), "invariable SCLs [subject clitics] are the only clitics that express a theme/rheme distinction". They are found in yes-no questions, such as (50b) above, and all-focus sentences, such as (50a) and (51), and are incompatible with wh-, focussed and topicalized constituents, as shown in (52) (data from Paduan, first discussed in Benincà 1983).

(51)   A piove!   'A rains'

(52) a. Dove (*a) zelo ndà?   'where A is-he gone?'
      b. EL GATO (*a) go visto.   'the cat A [I] have seen'
      c. Co ti, (*a) no voio ndare. 'with you A [I] not want [to] go'

Poletto concludes that "invariable clitics have the pragmatic function of indicating that the whole sentence is new, rather than the function of marking the subject". Although she continues to call them "subject clitics", Poletto (2000: 24) suggests that invariable subject clitics are generated in a wh-position, and then moved to the focus head and to the topic head, as shown in (53). (The clause structure assumed by Poletto adds wh-heads to Rizzi's (1997) split CP hypothesis; see (42) above.)

(53) [TopicP SCL$_i$ [FocusP t$_i$ [whP   t$_i$ [IP]]]]

In (53), the movement of the clitic through the various Comp heads is taken by Poletto to prevent the occurrence of wh-, focus and topic phrases in the specifiers of these heads. This explains the grammaticality of *a* in (50) and (51) and the ungrammaticality of *a* in (52), where it cooccurs with specifiers.

Given these observations, we propose that the vowel in (50) and (51) is not a "subject" clitic at all, but a different syntactic entity. We think that Benincà's (1983: 25) original analysis of Padovano [a] as a clitic that binds a functional head of the Comp layer (TOP, in her analysis) when this is empty, is on the right track.

Unlike Benincà's analysis, however, we suggest that preverbal vowels are not clitics that bind functional heads, but are elements that realize functional heads.[25] In

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[25].   Benincà's analysis clearly raises the question as to which position is occupied by the clitic *a*. Notice that this position must be higher than the relevant functional head since binding implies c-command.

minimalist terms, preverbal vowels are merged in functional heads. In Paduan (50) and (51), *a* realizes the head activated in sentences that are new information, an empty TOP if Benincà (1983) is correct.

In conclusion, the optional preverbal vowel found in the interrogative sentences in (4) is not an invariable subject clitic. Like the preverbal [ə] in (3c) and the vowel *a* in Paduan (50) and (51), we propose that it realizes a functional head. In the following section, we investigate which functional head it realizes.

3.1.4.   The Interrogative Vowel Hypothesis

The preverbal schwa optionally found in all persons of the paradigm in interrogative sentences is different from the three types of preverbal vowels identified in the 'alternative' analysis in (8): it is not an epenthetic vowel, not a subject clitic, and not the same syntactic element found in the first person singular and plural and second person plural forms in declarative sentences. We propose that the preverbal vowel in (4) is an "interrogative vowel" that (optionally) realizes the functional head activated in questions. In the clause structure (42) proposed by Rizzi (1997), this head is Focus, located in the Comp layer.

Both yes-no questions and wh-questions are incompatible with focused elements, as shown in (54). The ungrammaticality of (54) is explained if question operators and focalized constituents compete for the same projection and hence cannot cooccur.

(54)   a. *GIANNI è venuto?
           John is come?
       b. *A chi IL PREMIO NOBEL / *IL PREMIO NOBEL a chi dovrebbero dare?
           to whom the Nobel prize [they] should give

The sentences in (4) have the following analysis, illustrated in (55) for the second person singular. The schwa is optionally merged in the Focus head. The verb moves from its 'declarative' position following the subject clitic to a position preceding the subject clitic, which we have called Y in (34b). Verb movement is motivated by the need to check the inflectional [wh] feature on the verb (Rizzi 1996) against the Y head. Notice that this feature does not have a morphological realization in the northern Italian dialects, nor does it in Italian and French (while it is morphologically realized in other

languages, see Rizzi 1996: 66 and the references cited there).[26] Whether the verb adjoins to the clitic, as in Rizzi's (1993) analysis of encliticization, or moves to a slightly higher position, as in Kayne (1991), is immaterial for the present concerns. For concreteness, we opt for the former solution.[27]

(55) [$_{FocusP}$ (ə) [$_{YP}$ be:v$_i$-ət$_k$ [$_{AgrSP}$ t$_k$ t$_i$ … [$_{VP}$ t$_k$ t$_i$]]]] drink-you:sg?'

3.2. Support from Wh-Questions

3.2.1. Wh-Questions with Wh-Phrases
The distribution of the preverbal vowel in wh-questions provides further evidence in support of our analysis of this vowel as an "interrogative vowel". Consider the data in (56), which show the distribution of the preverbal vowel in questions containing wh-phrases.

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[26]. For the motivations against the proposal that the enclitic pronouns in (4) are the realization of the inflectional [wh] feature, see §5.3 below. This feature can be said to be realized by the invariable interrogative marker *lo* found in some Franco-provençal dialects (Poletto 2000: 64): cf. *Ven-lo-lou?* 'come-LO-she' (Is she coming?), where the verb inflected for the interrogative feature adjoins to the subject clitic pronoun. In Popular French (Morin 1979) and Québec French (Vecchiato 2000), the verb inflected for the interrogative feature does not move to Y overtly, since it linearly follows a weak pronoun: cf. *Quand il a-ti téléphoné?* 'when he has-TI called?' and *Je peux-ti ajouter quelque chose?* 'I can-TI add some thing?'.

[27]. For simplicity, in (55) we disregard the X head introduced in (35). See §5.4 and §5.5 below. Notice that verb movement to Y is not obligatory in Donceto. Yes-no questions can also have the same word order as declarative sentences, plus interrogative intonation.

(i)   ət be:v?   'do you:sg drink?'

In this case, the CP layer is not activated, and the interrogative vowel is not inserted. We illustrate this with the third person singular feminine form of a verb beginning with sC and with the third person plural.

(ii)   a.   (*ə)la skri:və?   'is she writing?'
       b.   (*ə) i be:vən?   'do they drink?'

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(56)   wh-phrases: [kwã:t an] 'how many years; how old'
        without preverbal vowel   *with preverbal vowel*

    a. *kwã:t an gɛ-t   kwã:t an ə gɛ-t   'how old are you:sg?'
       *kwã:t an ga-l   kwã:t an ə ga-l   'how old is he?'
    b. *kwã:t an gan-jə   kwã:t an ə gan-jə   'how old are they?'
    c. *kwã:t an go-jə   kwã:t an ə go-jə   'how old am I?'
       *kwã:t an gum-jə   kwã:t an ə gum-jə   'how old are we?'
       *kwã:t an gi:-v   kwã:t an ə gi:-v   'how old are you:pl?'

With wh-phrases like [kwã:t an], the preverbal vowel is obligatory in all forms. Therefore, it cannot be a subject clitic (which is obligatory in the second and third person singular and third person plural) nor the same syntactic entity identified for first person singular and plural and second person plural forms (which is optional and only found in these three forms). The sentences in (56) also show that the Donceto preverbal vowel differs from Paduan *a*, which cannot occur in wh-questions (see (52a) above). We take the preverbal vowel in (56) to be an instance of the "interrogative vowel", realizing the Focus head (while the vowel in Paduan is the realization of the functional head marking new information, TOP, if Benincà 1983 is correct).

These data raise another question: why is the "interrogative vowel" obligatory with wh-phrases but optional in yes-no questions? Compare (56) with (46).

Wh-phrases move into the specifier position of the Focus head realized by the interrogative vowel, as shown in (52).

(57)   [$_{FocusP}$ kwã:t an   ə   [$_{YP}$ gɛ$_i$-t$_k$ [$_{AgrSP}$ t$_k$ t$_i$ ⋯ [$_{VP}$ t$_k$ t$_i$]]]]
     'how old are you:sg?'

Given (52), the "interrogative vowel" can cooccur with wh-phrases. The occurrence of the interrogative vowel is, in this case, not only possible but obligatory in all forms. We would like to propose that the realization of the interrogative functional head (Focus) is required by the wh-phrase itself. The interrogative vowel is the manifestation of Spec-Head agreement between the wh-phrase and the interrogative functional head.[28]

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[28].   Some speakers find (56) without the interrogative vowel not ungrammatical, although they prefer the form with the interrogative vowel. If we are correct that the vowel is an overt manifestation of Spec-Head agreement, these data show that Spec-Head agreement can marginally remain non-overt.

In yes-no questions, an empty operator is usually assumed. The fact that the interrogative vowel is never obligatory in these structures (see (46) above) follows from the hypothesis that the empty operator is merged higher than SpecFocusP and not moved from a lower position, which implies that no Spec-Head agreement with the Focus head takes place. Following Rizzi (2001), we take the empty operator to be merged in the specifier of the projection Int(errogative)P that hosts the complementizer *se* 'whether' in embedded yes-no questions.[29]

(58) Force (Top) Int (Top) Foc Fin IP

3.2.2. Interrogative Vowels in Other Dialects

The Donceto dialect is not unique in displaying preverbal interrogative vowels in wh-questions and is thus not unique in differing from Paduan, which does not display the vowel *a* in wh-questions (see (52a) above). Other Emilian dialects allow interrogative vowels to occur in wh-questions (from Poletto 2000: 59-60).

(59) a. Ks a fen-i?   (Bologna)
         what A do-they?
      b. Perché a magna-t an pom?   (Guastalla)
         why A eat-you an apple?

Poletto (2000: 12) classifies the preverbal vowels found in these dialects as invariable subject clitics. This is confirmed by the fact that the vowel is the same in (59a), where the subject is third person, and (59b), where the subject is second person. Poletto however does not account for the difference between Paduan (52a) and Emilian dialects (59).[30] If the vowels in (52a) and (59) were one and the same element, they should not have such a different distribution.

Instead of assuming yet another class of vocalic subject clitics, we account for this difference by abandoning the notion of "invariable subject clitics" and suggesting, as

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[29]. See De Crousaz and Shlonsky (2000) for the same conclusion based on the distribution of subject clitics in interrogative sentences in Gruyére Franco-Provençal.

[30]. The data in (59), which contain invariable clitics in Poletto's typology, thus represent a counterexample to Poletto's (2000: 25) claim that the interaction with wh-items "is restricted to the deictic class" (also see §3.5.2).

we did above, that the preverbal vowels realize functional heads. The differences are due to the different functional heads activated in Paduan on the one hand and in Donceto and other Emilian dialects on the other, TOP and Focus, respectively.

If this analysis is correct, we predict a number of differences in the distribution of preverbal vowels depending on the functional head realized in each northern Italian dialect, differences which could not be predicted if the preverbal vowels were all subject clitics. Furthermore, we predict that there can be more than one type of preverbal vowel in the same dialect, as we have seen here for Donceto, where we have identified two functional vowels, i. e., the subject-field vowel and the interrogative vowel.

Intra-linguistic and cross-linguistic investigation, which we obviously cannot undertake in this paper, will establish which functional heads are realized by the preverbal vowels in each northern Italian dialect. (See Chinellato 2002b and this volume for a very detailed analysis of the vowel *a* in many Veneto dialects which supports our predictions.)

3.2.3.   Wh-Questions with Wh-Clitics

Now consider the data in (60) which show the distribution of preverbal vowels in questions containing a monosyllabic wh-word.

(60)   wh-clitics: [dõ:d] 'where'
         without preverbal vowel   *with preverbal vowel*
    a dõ:d vɛ-t   *dõ:d ə vɛ-t   'where are you:sg going?'
       dõ:d va-l   *dõ:d ə va-l   'where is he going?'
    b. dõ:d van-jə   *dõ:d ə van-jə   'where are they going?'
    c. dõ:d vo-jə   dõ:d ə vo-jə   'where am I going?'
       dõ:d num-jə   dõ:d ə num-jə   'where are we going?'
       dõ:d nɛ:-v   dõ:d ə nɛ:-v   'where are you:pl going?'

Extending to wh-elements the clitic/weak/strong tripartition proposed by Cardinaletti and Starke (1999) to account for personal pronouns and other categories such as adverbs, the wh-word in (60) can be taken to be a clitic element, i. e., a head. Among other syntactic properties that point to its clitic status, consider the fact that it cannot be

used in isolation: *[dõ:d] 'where?'.[31] The data in (60) show that the distribution of the preverbal vowel with wh-clitics is different from both yes-no questions (46) and wh-questions containing wh-phrases (56).

With wh-clitics the preverbal vowel is impossible in the second person singular, third person singular, and third person plural forms of the verb, as shown in (60a) and (60b), and is optional with the first person singular, first person plural, and second person plural forms of the verb, as shown in (60c). Note that the distribution of preverbal schwa in (60) is identical to the distribution of preverbal schwa in declarative sentences (cf. (3)). Given this fact, as well as the observation that the interrogative vowel does not distinguish among persons, we conclude that the preverbal schwa in (60c) is not the "interrogative vowel," but is the "subject-field vowel" found in the declarative sentences in (3c). In both sets of sentences (interrogative and declarative) the vocalic element appears in the same persons and is optional. In the other persons of the paradigm, preverbal schwa is absent both in declarative sentences and in interrogative sentences containing a wh-clitic (compare (60a) and (60b) with (3a) and (3b)).

Why do we not find the interrogative vowel in (60)? To explain why the interrogative vowel is not present with wh-clitics, we propose that wh-clitics are heads which move into the interrogative head position (Focus°) that is optionally realized as the "interrogative vowel". Thus, wh-clitics and interrogative vowels are mutually exclusive.[32]

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[31]. The fact that the vowel in the wh-form [dõ:d] is long does not imply, as it would in Italian, that it has word stress and is thus to be categorized as a weak form rather than a clitic form. In the Donceto dialect, atonic vowels can be long ([a:'me] 'honey'), as can nasal vowels, whether tonic ([kã:p] 'field') or atonic ([kõ:'tæ] 'to count').

Other northern Italian dialects also have wh-clitics, see Munaro (1997), (1999) and Poletto (2000) for discussion. Some of these cases are discussed in §3.5 below. Italian has a deficient wh-form, *che* 'what', as in *che hai fatto?* 'what [you] have done?' (see Cardinaletti 1994: 71). For French *que* 'what', which also exhibits deficient properties, see Bouchard and Hirschbuhler (1987) and Friedemann (1990).

[32]. If wh-clitics pattern with personal pronoun clitics in undergoing the two-step derivation assumed in §2.3, we might wonder what is the landing site of the XP-movement step of the derivation. We propose that it is the specifier of the Y head hosting the inflectional [wh] feature (see §3.1.4). As in the case of personal pronouns, weak wh-forms need licensing by an inflectional head. The derivation of e.g. *dõ:d ə vo-jə* in (60c) is as in (i) (also see (66c)).

(i) $[_{FocusP}$ $^{dõ:d}_j$ $[_{ZP}$ ə $[_{YP}$ t_j $^{vo}_i\text{-}^{jə}_k$ $[_{AgrSP}$ t_k t_i $\cdots$ $[_{VP}$ t_k t_i t_j]]]]]

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3.3. A Refinement of the Proposal and a Summary of the Data

In view of this conclusion concerning wh-questions with wh-clitics, the analysis of the vocalic segment in the yes-no questions (4c) can be partially rephrased. As stated in §3.1.4, the vocalic segment can be analyzed as an interrogative vowel, but the analysis of it as a syntactic element parallel to the one found in declarative sentences (3c) and wh-questions with wh-clitics (60c) cannot be excluded: both vocalic segments are in fact optional and have the same quality. Furthermore, there is no reason that in (4c) the interrogative vowel and the subject-field vowel cannot cooccur. Hence, there are three possible analyses of the preverbal vowel in (4c): [ə] represents the interrogative vowel (61a), the subject-field vowel (61b), or both the interrogative vowel and the subject-field vowel (61c). (The data in (61) are given for the first person singular.)

(61) a. (ə)be:v-jə
          |
     interrog. vowel

      b. (ə)be:v-jə
           |
     subj.-field vowel
      c. (ə)   (ə)   be:v-jə
          | |
     interrog. vowel   *subject-field vowel*

Evidence in support of this analysis comes from the fact that there are two realizations of the preverbal schwa in yes-no questions for the first person singular and plural and second person plural: short, as in [ə be:v-jə] (corresponding to (61a) and (61b)), and long, as in [ə: be:v-jə] (corresponding to (61c)).
These considerations are also valid for the wh-questions in (56c), which contain wh-phrases. Nothing prevents the interrogative vowel from cooccurring with the subject-field vowel of (3c).

(62) kwã:t an   ə   (ə)   go-jə
                   | |
        interrog. vowel   *subj.-field vowel*

The forms in (4a) and (4b) and (56a) and (56b), on the contrary, have a single analysis: the preverbal schwa can only be the interrogative vowel. (We illustrate this in (63) with the second person singular)

(63) a.   ə   be:v-ət
                 |
        interrog. vowel

     b. kwã:t an   ə   gɛ-t
                        |
        interrog. vowel

Crucially, the long realization of schwa (represented in (61c) and (62)) is *not* attested with the second and third person singular and the third person plural forms. In these forms, only the short realization of the vowel is possible.

A summary of the interrogative data is provided in (64).

(64)

Preverbal schwa	2nd & 3rd sg. & 3rd pl.	1st sg. & pl. & 2nd pl.
Yes-no questions:	Optional • interrogative vowel	Optional • interrogative vowel or • subject-field vowel or • interrogative vowel + subject-field vowel
Wh-phrases:	Obligatory • interrogative vowel	Obligatory • interrogative vowel or • interrogative vowel + subject-field vowel
Wh-clitics:	Impossible	Optional • subject-field vowel

3.4.   More on the Z and the Y head

In §2.4.3, we have called the functional head that hosts the features of the first person singular and plural and the second person plural the Z head and we have shown that it can be realized as schwa. In §3.2.3 and §3.3., we have seen that in yes-no questions and

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questions with a wh-clitic, the subject-field vowel precedes the raised verb, and in the latter it follows the wh-clitic. See (46c) and (60c), repeated in (65) for the first person singular.

(65) a. ə be:v-jə   'drink-I'
　　　b. dõ:d ə vo-jə   'where am I going?'

The Z head realized by schwa must be lower than the Focus head occupied by the wh-clitic, but higher than the Y head to which the verb raises in interrogatives (see (34b) and (55) above). In (66), we provide the structures of the sentences under consideration: (61a) is the structure of a declarative sentence (see (41)), and (66b) and (66c) are the structures of the two interrogative sentences in (65).

(66) a.　　　　　[$_{ZP}$ ə　[$_{YP}$　　　　　[$_{AgrSP}$　pro$_k$ be:v$_i$ … [$_{VP}$ t$_k$　t$_i$　]]]]
　　　b.　　　　　[$_{ZP}$ ə　[$_{YP}$ be:v$_i$-jə$_k$ [$_{AgrSP}$　t$_k$　t$_i$ … 　[$_{VP}$ t$_k$ t$_i$　]]]]
　　　c. [$_{FocusP}$ dõ:d$_j$ [$_{ZP}$ ə　[$_{YP}$ t$_j$ vo$_i$-jə$_k$　[$_{AgrSP}$　t$_k$ t$_i$ … [$_{VP}$ t$_k$ t$_i$　t$_j$]]]]]

The fact that the Z head realized by schwa is lower than the Focus head occupied by the wh-clitic can be used as further evidence to locate the Z head in the Infl layer (see §2.4.3 above). The fact that the subject-field vowel precedes the raised verb supports the hypothesis proposed above that the Y head to which the verb raises in interrogatives is also in the Infl layer (see note 13 and §3.1.4).

In conclusion, the Donceto schwa in (3c) does not interact with the Comp layer in any way. It does not mandatorily cluster with the complementizer (see [ke ə] in (38a), and can occur with wh-clitics (see (60c)), as well as with wh-phrases (see (62)).

3.5.　Wh-Phrases vs Wh-Clitics in Other dialects

3.5.1.　Gazzoli

Data from the dialect of Gazzoli provide some evidence that the wh-elements that require the interrogative vowel are structurally higher than those that cannot occur with it. In this dialect, two different forms of wh-words exist, a clitic and a non-clitic one. Consider the two forms for the wh-word 'where': [õ:d] and [õ:də]. Assuming Cardinaletti and Starke's (1999) typology, we take the former to be a clitic element, i. e., a head, the latter to be a 'strong' element, i. e., a phrase. Among other syntactic

properties which point to their different syntactic status, consider the fact that only the latter can be used in isolation, while the former cannot: *[õ:d]?* vs *[õ:də]?* 'where?'. As in Donceto, the 'strong' wh-form requires the interrogative vowel in all persons, and these questions are realized with a long [ə:]. The clitic wh-form, on the other hand, occurs with the vocalic segment only in the first person singular and plural and in the second person plural.

(67)   Gazzoli

    a. *'strong' form (compare with (56))*

*õ:də vɛ-t	õ:də ə vɛ-t	'where are you:sg going?'
*õ:də va-l	õ:də ə va-l	'where is he going?'
*õ:də van-jə	õ:də ə van-jə	'where are they going?'
*õ:də vo-jə	õ:də ə vo-jə	'where am I going?'
*õ:də num-jə	õ:də ə num-jə	'where are we going?'
*õ:də nɛ:-v	õ:də ə nɛ:-v	'where are you:pl going?'

    b. *clitic form (compare with (60))*

õ:d vɛ-t	*õ:d ə vɛ-t	'where are you:sg going?'
õ:d va-l	*õ:d ə va-l	'where is he going?'
õ:d van-jə	*õ:d ə van-jə	'where are they going?'
õ:d vo-jə	õ:d ə vo-jə	'where am I going?'
õ:d num-jə	õ:d ə num-jə	'where are we going?'
õ:d nɛ:-v	õ:d ə nɛ:-v	'where are you:pl going?'

The two wh-forms are semantically distinct along the lines of Pesetsky's (1987) notion of D(iscourse)-linking. The clitic form is non-D-linked, the strong form is D-linked. As is currently assumed (cf. Starke 2001, Rizzi 2002), D-linked wh-phrases are structurally higher than non-D-linked ones and presumably occur in SpecTopicP. On its way to the higher Spec of the Comp layer, the D-linked wh-phrase moves through SpecFocusP, entering a Spec-Head relation with the Focus head and activating it. This results in the obligatory realization of the interrogative vowel.

3.5.2.   San Michele al Tagliamento (Friuli)

The fact that different wh-words either require or block the occurrence of vocalic segments has been previously observed for other northern Italian dialects. The vocalic segments that Poletto calls deictic clitics must occur with wh-phrases, but cannot occur with wh-clitics. The following data are from the Friulian dialect of San Michele al Tagliamento (Poletto 2000: 59-60, 71-72; for the cases in which the presence of the vocalic element is apparently optional, but in fact gives rise to different interpretations – cf. *Coma (i) a-tu fat i compit?* 'how I have-you done the task?', see note 35).

(68)   a. *deictic clitic mandatory*

      Quant *(i) mangi-tu?   Quant *(a) van-u a Pordenon?

      when I eat-you?   when A go-they to Pordenone?

   b. *deictic clitic ungrammatical*

      Quant (*i) mangi-tu?   Do (*a) van-u?

      how much I eat-you?   where A go-they?

The distribution of vocalic clitics with different wh-words illustrated in (68) is similar to the Donceto data. If we consider the vocalic segments that Poletto calls deictic clitics to be an instance of the interrogative vowel, we can account for the data as follows. The interrogative vowel is required with wh-phrases (68a); with wh-clitics, the vowel is impossible (68b). The analysis can also be the same as the one proposed above for Donceto: wh-phrases enter a spec-head agreement relation with the Focus head, and this agreement relation is expressed by the interrogative vowel; wh-clitics cliticize to the Focus head and make the realization of the focus head through the interrogative vowel impossible.[33]

The main difference between the Friulian data and the Donceto data has to do with the quality of the vowel. The Donceto preverbal vowel found in interrogative sentences is the same form in all persons (i. e., [ə]), while the Friulian preverbal vowel distinguishes

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[33].   The fact that deictic subject clitics cannot occur with wh-clitics is taken by Poletto (2000:36) to be further evidence for the hypothesis that vocalic subject clitics are located in the Comp layer (see note 20). This is consistent with her hypothesis that the Comp layer hosts subjects. Assuming Rizzi's (1997) articulation of clause structure in (42), it is surprising that subjects and subject clitics are assumed to occur in the Comp layer. The proposal that invariable and deictic clitics are not subject clitics, but, as suggested in this paper, the realization of functional heads also resolves this controversial aspect of Poletto's proposal.

between the first and second persons on the one hand and the third person on the other. In (68) we see that in the third person the vowel is [a], while in the second person the vowel is [i]. This is surprising if, as we suggest, the vowel realizes the Focus head.

Why does the interrogative vowel have two different realizations depending on the persons of the paradigm? Suppose that this vowel realizes a combination of two functional heads. Since there is a split of the paradigm between first and second person on the one hand and third person on the other, we might think that the features involved are person features. The relevant person head incorporates into the Focus head. This provides the realization of [i] in the first and second person of the paradigm and of [a] in the third person.

3.6. Further Evidence Against Deictic Clitics

We have seen that deictic clitics can also be analyzed as the realization of functional categories. In this section, further evidence is provided to this effect.

As seen in §3.1.3, Paduan has a vowel, *a*, that marks the whole sentence as new information. Since it is found in all persons of the paradigm, it can be classified as an invariable clitic, in Poletto's typology. In other dialects, however, a comparable vowel is found only in some persons of the paradigm. In the dialect of Schio (province of Vicenza), studied by Chinellato (2002a, 2002b, this volume), the preverbal vowel *a* that conveys new information is only found in the first and second person singular and plural, i. e., it has the same distribution as deictic clitics in Poletto's typology. In (69a), with *a*, the speaker (S) presumes that the addressee (A) does not know the information in square brackets, while in (69b), without *a*, the speaker (S) presumes that the addressee (A) already knows the information in square brackets.

(69) a. S: Me sento male perché [a go magnà massa].
             [I] feel sick because A [I] have eaten too much
         A: Oh, me despiaze.
             oh, [it] to-me 'dislikes' (= I'm sorry)
      b. S: Me sento male perché [go magnà massa]
             I feel sick because [I] have eaten too much
         A: Te lo gavevo dito, mi.
             [I] to-you it had said, I (= I told you not to eat so much)

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The vowel in (69) is thus similar to Paduan *a* in that it introduces new information. However, it differs from Paduan *a* in that it does not occur in all persons of the paradigm, and furthermore it does not occur in questions: compare Schio **A ve-to via?* 'A go-you:sg away?' with Paduan *A ve-to via* (50b). (See Chinellato's detailed analysis for more information.) With respect to its distribution, the Schio vowel behaves like a deictic clitic, but with respect to its function, it behaves like an invariable clitic.

As with the Donceto schwas in (3c) and (4), the *a* vowel found in Schio does not fit Poletto's typology. To account for the Schio vowel, yet another class of subject clitics should be added to those seen in (7).

Assuming instead that preverbal vowels are the realization of functional heads, it is expected that their syntactic behaviour would differ depending on which functional head they realize. Assuming the clause structure in (70) (proposed in Cardinaletti 1999; see §2.4.3), Chinellato (2002a, 2002b, this volume) suggests that in Schio, *a* realizes the functional head EPP, which hosts the subject in all-focus sentences.[34]

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[34]. Since this head is located in the Infl layer, we expect the Schio *a* to behave like the Donceto schwa in (3c) in that it should not mandatorily cluster with the complementizer. The expectation is borne out. Compare (i) with (38).

(i)   a.   Vara ch'a vegno.   'look that A [I] come'

        b.   Vara che a vegno.

Since the Schio *a* is not the same as the Donceto interrogative vowel in (4), it does not occur in questions. Compare (iia) with (46) and (iib) with (56).

(ii)   a.   *A ve-to via?   'A go-you:sg away?'

       b.   *Quante caramele a ghe-to magnà?   'how many sweets A have-you:sg eaten?'

(70)   SubjP
                       /   \
            Subj°   EppP
        [+subject of   /   \
        predication]   Epp°   AgrSP*
                     [+epp]   /   \
                           AgrS°* TP
                  a   [+phi]

The fact that the *a* vowel is only found in some persons of the paradigm might suggest that it realizes a combination of more than one functional head, like the Friulan *a* discussed in §3.5.2. Since there is a split in the paradigm between first and second person on the one hand and third person on the other, we might think that the relevant feature is a person feature here too. The relevant person head incorporates into the EPP head. This provides the realization of *a* in the first and second person of the paradigm only, the third person being a non-person (Benveniste 1971).

In conclusion, the preverbal vocalic segments in Donceto and Schio realize different functional heads. If the preverbal vocalic segments in these two dialects were all subject clitics, there would be no way to account for the difference in distribution (declarative/interrogative in Donceto vs. only declarative in Schio) or for the difference in meaning (full optionality in Donceto vs. "new information" in Schio).

3.7.   On the Optionality of Vocalic Segments

A final remark concerns the optionality issue. The preverbal vowel is fully optional only in some dialects (as in the Donceto dialect), while in others (as in the Schio dialect), its presence implies a specific meaning, i. e., "new information".

This difference depends on the type of functional head involved. Since in Donceto (3c), a functional head of the subject-field is involved, no meaning difference is expected in this dialect. The subject-field heads are activated anyway depending on the subject merged in the clause. Similar remarks hold for the optional interrogative vowel in the yes-no questions in (4), where we have detected no difference in meaning between the sentences with and without the interrogative vowel. This depends on the fact that the functional head Focus is always activated in questions with enclitic pronouns. (For

other types of yes-no questions, where the Focus head is not activated, see note 27).

It thus cannot be the case that the subject-field head and the Focus head are only present when the vowel is present, and are absent in the absence of the vowel. The sentences with and without the vocalic segment contain the same functional heads and have the same meaning. Thus, schwa optionally realizes otherwise present functional heads.

In the Schio dialect, on the other hand, the vowel *a* realizes a head that contributes to the interpretation of the sentence, namely the head EPP, as does the Paduan vowel *a* which realizes the TOP head (see §3.1.3). In these cases, there is no real optionality, and we might suppose that the relevant heads are not activated when the preverbal vowel is not present in the clause.[35]

3.8. Conclusions and Diachronic Considerations

In the preceding sections, we have seen that in Donceto, interrogative sentences display a rather intricate occurrence of vocalic segments. Some of these data are different from data previously discussed in the literature and confirm the hypothesis that the prevebal vocalic segments in (4) cannot be analyzed as subject clitics. The preverbal vowel in (4) is an 'interrogative vowel' that (optionally) realizes a functional head of the Comp layer, namely the head Focus that contains the interrogative features.

A summary of our revised analysis of preverbal clitics is given in (71), to be compared with the 'unified' analysis in (5) and (6).

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[35].   Poletto (2000: 69) notes that the presence of a vocalic clitic in interrogative sentences sometimes correlates with special interpretations. In Friulian, for instance, the presence of a deictic clitic signals surprise and the request of additional information. This is not the case of the Donceto dialect studied here, where the interrogative vowel is truly optional. The difference in interpretation suggests that different heads of the Comp layer are realized by the vocalic segments in the two dialects.

Poletto (2000: 69) reports for another Piacentine dialect (the one spoken in Piacenza) that sentences with the preverbal vowel, what we call the "interrogative" vowel, are used in "out-of-the-blue" questions, an observation which is in line with the results of our field research.

(i)   A mangium-ia l pom?

       A eat-we the apple?

Poletto does not compare (i) with questions without the vowel, but no difference should be expected in the Piacenza dialect either.

(71) a. ə   t   be:v   'you:sg drink'

        ə   l   be:və   'he drinks'

        | |

     epen. vowel   subj. clitic

  b. i 'be:vən   'they drink'

     |

    subject clitic

  c. (ə) be:v   'I drink'

     (ə) bu'vum   'we drink'

     (ə) bu'vi   'you:pl drink'

       |

    subject-field vowel

  d. (ə) be:v-ət   'do you (sg) drink?'

     (ə) be:və-l   'does he drink?'

     (ə) be:vən-jə   'are they drinking?'

       |

    interrogative vowel

  e. (ə) be:v-jə   'am I drinking?'

     (ə) bu'vum-jə   'are we drinking?'

     (ə) bu'vi:-v   'are you:pl drinking?'

       |

    interrog. vowel or subj. field vowel

The proposal that functional heads are realized by vocalic material allows us to account for much of the data from Northern Italian dialects that have not been successfully accounted for in the literature. In addition to accounting for the syntactic properties of preverbal vowels and the syntactic microvariation found in the northern Italian dialects, we can also account for their phonological realization and their diachronic evolution.

While the three true subject clitics (*t* / *l* / *i*) are derived from Latin pronouns (Vanelli 1984, 1987) — *t* derives from the Latin nominative *tu*, and *l* and *i* derive from the Latin demonstrative *illu/illi* — it is not obvious which Latin morphemes to posit as the base of the subject-field vowel and interrogative vowel.

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Vanelli (1984, 1987) proposes that the vocalic clitics comparable to [ə] in (3c) derive from the Latin first person nominative pronoun *ego*, which was reduced to a single vowel and then extended to the first person plural and finally to the second person plural. But there are many problems with this historical reconstruction. First, there is great variation in the realization of this vowel across dialects: *a, e, ə, i, o, u* (see (44b) in §2.5). Can all of these forms be derived from the same Latin root? Second, if the diachronic process took place in three distinct steps, we might expect to find historical documentation or dialect data in which the first person singular, first person plural, and second person plural forms are all different (stage 1), or the first person singular and plural forms are the same but are themselves different from the second person plural (stage 2), along with the common pattern in which all three forms are the same (stage 3).

(72)   stage 1   >   stage 2   >   stage 3

   first person singular   α   α   α

   first person plural   β   α   α

   second person plural   γ   γ   α

While cross-linguistic data in support of stage 2 can be found (for example, in the Florentine dialect the first person singular and plural clitics are [e] and the second person plural clitic is [vu] (Vanelli 1984: 290, n. 20)), data for the first stage are lacking (Renzi and Vanelli 1983: §1.2). These facts lead us to suspect that the historical evolution suggested above might not be correct. Furthermore, to our knowledge, no one has proposed a historical analysis of the interrogative vowel.

So where do the preverbal vowels represented in (3c) and (4) come from? We propose that the functional heads discussed so far are listed in the lexicon as a non-specified vocalic segment which gets an optional default realization via the "epenthetic" vowel. We call the phenomenon of the realization of a functional head with "default" phonological material "syntactic epenthesis" to express the similarity with phonological epenthesis.

Cross-linguistic investigation, which we cannot undertake in this paper, will establish whether the realization of the preverbal vowels is done via the default vowel used in

phonological epenthesis or in some other way in other dialects.[36] We also leave open the typological question as to why "syntactic epenthesis" is manifested in the northern Italian dialects but is apparently quite rare across languages. A more detailed investigation might show that this phenomenon, which, to our knowledge, has never been discussed in the literature, is more wide-spread across languages.[37]

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[36]. A first examination shows that in other Northern Italian dialects, the preverbal vocalic segments have the same phonetic realization as the epenthetic vowel. (We have found a different realization only when the vocalic segment realizes two functional heads, see §3.5.2 and §3.6, and when it contributes to the interpretation of the sentence, see §3.7) Although this seems to be the most economical system, it is not clear whether the preverbal vocalic segments must necessarily be identical to the epenthetic vowel.

[37]. Another good candidate for syntactic epenthesis might be found in the Swedish construction in (ia) and (ib), involving motion and aspectual verbs, respectively. The connecting element [□] realizes a functional head in the extended projection of the lexical verb embedded under the motion and aspectual verb (Cardinaletti and Giusti 2001).

(i) a. Han går (och) tar sig en grogg.   'he goes (and) takes a grogg'
     b. Hans slutar (och) skriver.   'Hans stops (and) writes'

[□] is only optionally phonetically realized, contrary to the connecting element found in the true coordinations and infinitival constructions in (ii), which is always obligatory.

(ii) a. Maria och Johan kommer.   'Maria and Johan come'
      b. Han kommer att åka på semester.   'he comes to go on vacation'

Furthermore, while the connecting element in (i) is most naturally pronounced [□], the connecting elements in (ii) can also be pronounced [ok] and [at], respectively (many thanks to Verner Egerland for very helpful discussion on this topic). (Note, however, that [□] is not usually the epenthetic vowel in Swedish.)

Syntactic epenthesis in Northern Italian dialects also looks similar to a phenomenon found in Yorùbá: all empty functional heads – C(omp) and T(ense) in the verbal domain, K(ase) and D(eterminer) in the nominal domain – get a default realization via a high tone (Victor Manfredi, Class lectures, Venice, March 2001).

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4. Postverbal Clitics in Interrogative Sentences

One aspect of interrogative sentences that we have not yet explored is the appearance of an enclitic pronoun that is mandatory in all persons (4). Our analysis of these clitics will have important consequences for the issue of subjects and of clitics in general.

The first observation is that the postverbal clitic found in interrogative sentences appears, in some cases, to be closely related or identical to the preverbal clitic found in declarative sentences, while, in other cases, the two elements appear to be unrelated. Secondly, while the postverbal clitic is always mandatory, the preverbal material is optional in some forms.

(73)

		preverbal position (declarative)	postverbal position (interrogative)
a.	second person singular:	[ət-]/[tə-]/[t-] mandatory	[-ət]/[-t] mandatory
	third person singular:	[əl-]/[lə-]/[l-] mandatory	[-l] mandatory
b.	third person plural:	[i-]/[j-] mandatory	[-jə] mandatory
c.	first person singular:	[ə-] optional	[-jə]/[-j] mandatory
	first person plural:	[ə-] optional	[-jə] mandatory
	second person plural:	[ə-] optional	[-v] mandatory

Because of the differences in distribution and in phonological form, many researchers have proposed that proclitics and enclitics belong to two different paradigms, and the postverbal material has often been analyzed not as a clitic pronoun but as an inflectional affix (Benincà and Vanelli 1982, Benincà 1983, Fava 1993, Munaro 1999, Poletto 2000 and the references quoted therein). This is a very costly analysis since it implies that paradigms of pronouns must be marked as 'proclitic/enclitic' or as 'declarative/interrogative' or as 'word/affix' in the lexicon.

In the following paragraphs, we show that the analysis of subject clitics developed so far renders the two paradigm hypothesis unnecessary, and we argue instead for the single paradigm hypothesis. (In §5.1 and §5.4, French is also included in the

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Finally, the vowels used by children in the acquisition of free functional morphemes might be analyzed as another instance of syntactic epenthesis: they are the proto-syntactic devices that children use to fill functional heads before they learn the relevant lexical items (cf. Bottari, Cipriani and Chilosi 1993/94).

discussion.) Since, as we have shown, the preverbal optional schwa in (73c) is not a subject clitic, it should not be compared with the postverbal material, which, we will argue, should be considered to be a subject clitic belonging to one and the same paradigm as the three true proclitic pronouns individuated so far. The differences between the true proclitic pronouns and the enclitic pronouns can be accounted for with phonological and/or syntactic explanations.[38]

4.1. Second and Third Person Singular and Third Person Plural

We can easily account for the data in (73a) and (73b) with the single paradigm hypothesis. We have identified three true subject clitics: the second and third person singular forms (consonantal clitics) and the third person plural form (vocalic clitic). In (74) we see the underlying form of these subject clitics and the output forms attested in various contexts.

(74)	subject clitic	preverbal position (mandatory)		postverbal position (mandatory)	
a.	/t/	[ət-]	[ət-be:v]	[-ət]	[be:v-ət]
		[tə-]	[tə-skri:v]	[-t]	[vɛ-t]
		[t-]	[t-ɛ bu'vi:d]		
	/l/	[əl-]	[əl-be:və]	[-l]	[be:və-l]
		[lə-]	[lə-skri:və]		
		[l-]	[l-a bu'vi:d]		
b.	/i/	[i-]	[i-be:vən]	[-jə]	[be:vən-jə]
		[j-]	[j-an bu'vi:d]		

The proclitic and enclitic forms of these persons are similar in two ways: the clitics are mandatory both preverbally and postverbally, and the surface forms can be straightforwardly derived from the underlying forms. We have seen that we can derive the proclitic forms from the underlying form of the subject clitic by considering the phonological context in which each appears (§2.1.1 and §2.2). We will now see that we

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[38]. See Toman (1992) and Peperkamp (1997) for the discussion of proclisis vs. enclisis in phonology, and Benincà and Cinque (1993) and Rizzi (1993) for proclisis vs. enclisis in syntax.

can account for the enclitic forms in the same way. As assumed above, in questions the verb moves from its 'declarative' position following the subject clitic to a position preceding the subject clitic.

(75) a.   t - be:v   > be:v - t   > be:v ə t   'do you:sg drink?'
      b.   l - be:və   > be:və - l   > be:v ə l   'does he drink?'
      c.   i - be:vən > be:vən - i > be:vən j ə   'do they drink?'

In (75a), the postverbal consonantal clitic cannot be syllabified, so an epenthetic vowel is inserted before it: *be:vət*. Its position is consistent with the placement of epenthetic vowels illustrated in (14). And, as expected, an epenthetic vowel is not necessary if the verb ends in a vowel (76).

(76) vɛ-t   *vɛ-ət   'are you:sg going?'
      gɛ-t   *gɛ-ət   'are you:sg having?'

In (75b), the enclitic form of the third person singular is identical to the input form. The /l/ of the input can always be syllabified with the word-final vowel (representing the inflectional morpheme of the third person singular form), so epenthesis is not necessary. In (75c), the proclitic form of the third person plural pronoun is [i] before a consonant and [i] or [j] before a vowel (see note 12). The explanation of the phonological difference between the proclitic and the enclitic form of this pronoun is slightly more complex than in the preceding cases. Why is an epenthetic vowel necessary in the enclitic form? And why do we find the epenthetic vowel <u>after</u> the clitic rather than <u>before</u> it? The forms in (77) represent some candidate outputs for an input /be:vən-i/.

(77) /be:vən-i/   > a. *'be:vən-i
                        b. *'be:vən-
                        c. *'be:vən-əj
                        d. *be:və'n-əj
                        e. 'be:vən-jə

The form in (77a), in which the output is faithful to the input, is not found because of the productive rule of apocope in these dialects: only the inflectional morphemes /a/ and /ə/ and epenthetic /ə/ are permitted word-finally. For example, the recently introduced 'euro' is pronounced [ewr] (with loss of the final /o/) in Donceto. If we assume that /a/

(realized as [a] or [æ] in stressed open syllables) is the only low vowel, and [ə] has no specified place features, then the constraint relevant in ruling out this form can be formulated as: *V$_{[-low]}$#.[39]

The form in (77b) is not found because the mandatory subject clitic is deleted (in violation of the MAX constraint; see the discussion of (30c)). The output in (77c), in which the clitic /i/ is glided after the epenthetic vowel (schwa), is not found because of metrical constraints active in this dialect, and specifically the Weight-to-Stress Principle (WSP) which favors a stressed *heavy* syllable. Therefore, a word ending in a falling diphthong (i. e., a heavy syllable) will have final stress: [ba'gaj] 'child', and not *['bagaj]. Stress shift, resulting in the form in (77d) is not possible because of a constraint that prohibits stress on epenthetic vowels (HEAD-DEP). Hence, while a final heavy syllable is usually stressed ([fju'lEN] 'child'), it is not stressed in a form like ['ferəm] 'still' (*[fe'rəm]) because the final syllable contains an epenthetic vowel. (See Repetti 2000 and to appear for a discussion of the metrical structures of northern Italian dialects.) Therefore, the form in (77e), in which the clitic /i/ is glided before epenthetic schwa, is found.

In conclusion, the true subject clitics, the second and third person singular and third person plural, have the lexical forms given in (74), namely /t/, /l/, and /i/. These clitics are mandatory in both proclitic and enclitic position, and the output forms can be accounted for by considering the phonological constraints active in this language.

Since proclitics and enclitics are one and the same element, we also expect that they cannot give rise to any doubling. This prediction is borne out, as shown in (78). [40]

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[39]. To be precise, a lexical vowel is permitted word-finally (for example, [bɔbi] 'Bobbio (place name)'), but not a vowel representing an inflectional morpheme (except /a/ and /ə/).

[40]. In some dialects, sentences parallel to (78) are possible in the third person singular (Poletto 2000: 54-55). According to Poletto, this is another piece of evidence in support of the two-paradigm hypothesis since one and the same element cannot appear simultaneously before and after the verb.

(i) a. Sok a l a-lo fait? 'what he has-he done?'   (Rodoretto di Prali [Pied.-Prov.])

    b. La baŋ-la?   'it rains-it?   (Pra del Torno [Provençal])

Notice however that the double occurrence of clitics is also marginally attested in the case of object clitics. See (ii) from Berretta (1985: 194), Kayne (1989a: 256, n.37) and the references cited there.

(78) * ət be:v-ət

     * əl be:və-l

     * i be:vən-jə

4.2. First Person Singular and Plural and Second Person Plural

In this section we analyze the relationship between the preverbal vowel (which we have claimed is not a true subject clitic, but a subject-field vowel) and the postverbal material in the first person singular and plural and second person plural. We conclude that the two elements are independent syntactic entities and that the enclitic elements can be analyzed as subject pronouns.

4.2.1. Optional Preverbal Vowels vs. Mandatory Postverbal Clitics

The data in (73c), repeated in (79), show that the issue of optionality varies depending on the position. For the first person singular and plural and second plural, the preverbal vowel is optional, while the postverbal clitic is mandatory. (Compare with the other persons of the paradigm where clitics are mandatory in preverbal and postverbal position (74).)

(79)   preverbal position   postverbal position

           (optional)   (mandatory)

           [ə-]   [ə-be:v]/[be:v]   [-jə] [be:v-jə]

                                  [-j]   [vo-j]

(ii)   Ancora una volta mi hanno voluto riconfermarmi la fiducia.

     'once again [they] to-me have wanted [to] reconfirm to-me the confidence'

However, (ii) is never used as evidence to suggest a two-paradigm hypothesis for object clitics. Whatever analysis turns out to be correct for (ii), it can be extended to (i). We tentatively suggest that both (i) and (ii) can be accounted for in the copy theory of movement (Chomsky 1993) by assuming that in these (exceptional) cases, both the trace and the head of the chain are spelled out. As for (i), we take enclitic *lo* and *la* to be the head of the chain, while in (ii), proclitic *mi* is the head of the chain. This is an independent difference due to the different syntactic derivation of the two cases. See note 65 for a possible derivation of (ib).

[ə-] [ə-bu'vum]/[bu'vum]   [-jə] [bu'vum-jə]

[ə-] [ə-bu'vi]/[bu'vi]   [-v]   [bu'vi:-v]

This is the first argument that the enclitic material should not be compared with the preverbal vowel. The two are different syntactic entities. If, as we claim, the preverbal vowel is not a subject clitic, the postverbal material can well be analyzed as a subject clitic. Notice that it behaves like the true subject clitic pronouns discussed in §4.1 in that it is mandatory.

4.2.2.   The Phonological Form of the Preverbal Vowel and Postverbal Clitics

Furthermore, we see that the preverbal vowel and the enclitics are phonologically unrelated. In this section we show that the enclitic forms can in no way be phonologically derived from the preverbal schwa.

In (80) we apply the analysis of question formation adopted above: the verb moves from its declarative position following the vowel to a position preceding it.

(80) a. ə - be:v   >   be:v - ə   >   *be:v-ə   (81) [be:v-jə]

b. ə - bu'vum >   bu'vum - ə >   *bu'vum-ə   [bu'vum-jə]

c. ə - bu'vi   >   bu'vi - ə   >   *bu'vi-ə   [bu'vi:-v]

There is no phonological rule or process that would allow us to account for the phonological differences between the predicted outputs (as shown in (80)) and the actual outputs in (81). Let us consider the first person singular, [be:v-jə], given a proposed input form /be:v-ə/. In (82) two possible outputs for the input /be:v-ə/ are provided. Candidate (82a) is not the actual output although there is no phonological constraint ruling out this form. And candidate (82b), the actual output, should incur a fatal violation due to the fact there is no reason to insert an epenthetic glide before schwa: epenthesis is not necessary in that position, and glide formation is not otherwise attested in this context.

(82) /be:v - ə/   >   a. *'be:v - ə

b. 'be:v - jə

Furthermore, consider the form in (83), the interrogative form of the phrase [(ə) go] 'I have'.

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(83) /go - ə/   >   a. *go - ə

                          b. *go -

                          c. go - j

Given the proposed input /go - ə/, we might expect the output in (83a) which is most faithful to the input, or the output in (83b) with deletion of the final vowel. But these are not the attested forms. Instead, the output consists of the verb followed by a glide, as in (83c). Again, this is surprising since output /j/ is unrelated to anything in the input and gliding is not expected in this context.

Similar problems arise in the analysis of the other two forms. The first person plural form, [bu'vum-jə], and the second person plural form, [bu'vi:-v], are not the output forms we expect given the proposed inputs /bu'vum-ə/ and /bu'vi-ə/, respectively.

(84) /bu'vum-ə/   >   a. *bu'vum-ə

                          b. bu'vum-jə

(85) /bu'vi-ə/   >   a. *bu'vi-ə

                          b. bu'vi:-v

The forms in (84a) and (85a) are the forms most faithful to the input. These forms do not violate any of the high-ranking constraints in the language, and we would expect them to be selected as the output forms. However, they are not. The form in (84b) is the actual output form despite the fact that a /j/ is inserted: as stated above for the first person singular, neither glide insertion nor epenthesis is expected. Similarly, the form in (85b) is the actual output form despite the fact that input /ə/ is replaced by output [v]. There is no phonological reason to expect this type of a process.

Given the problems with the analysis in (80), we conclude that the attested output forms — [be:v-jə], [bu'vum-jə], [bu'vi:-v] — are not related to the posited inputs — /be:v-ə/, /bu'vum-ə/, /bu'vi-ə/, respectively. This conclusion is consistent with the conclusion reached previously that the schwa occurring in (3c) is not a subject clitic, but a different syntactic entity. Since the enclitic material is unrelated to the preverbal vowel, nothing prevents us from considering it a subject clitic pronoun (see §4.2.5 for an account of its phonological form).

4.2.3. Apparent Clitic Doubling

In yes-no questions (86a) and wh-questions with wh-clitics (86b), the proclitic vowel may cooccur with the enclitic element (see §3.3 above).

(86) a. ə beːv   ~   ə beːv-jə

          ə bu'vum   ~   ə bu'vum-jə

          ə bu'vi   ~   ə bu'viː-v

      b. ə vo   ~   dõːd ə vo-jə

          ə num   ~   dõːd ə num-jə

          ə nɛ   ~   dõːd ə nɛː-v

We have already pointed out in §3.1.3 that in a derivational approach to clitics (cf. Kayne 1975), there cannot be two subject pronouns moving from one and the same position. Nor can two clitics, in a configurational approach to clitics (cf. Jaeggli 1982), be linked to one and the same position. Notice that the 'doubling effect' problem is directly linked to the issue of the different distribution and quality of the material in proclitic vs. enclitic position that we have discussed in §4.2.1 and §4.2.2 above and can be solved in the same way.

If the preverbal vowel in (79) is not a subject clitic but a different syntactic entity, as we have argued so far, (86) is not an instance of doubling and thus does not present a problem. While the preverbal [ə] realizes a functional head, the postverbal [jə]/[v] in (79) can be taken to be enclitic pronouns. In the next paragraphs we explain this proposal more fully.[41]

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[41]. If the preverbal vowel in (86) were a subject clitic, the cooccurrence of a preverbal and a postverbal subject clitic could be analyzed as an instance of clitic doubling, much as in the analysis by Kayne (1972) of French enclitics. This analysis cannot however distinguish among the different persons of the paradigm. It cannot account for the fact that 'doubling' is only possible in (86) with the first person singular and plural and the second person plural, but cannot appear in (78) with the second and third person singular and the third person plural. If (86) were an instance of 'doubling', further assumptions need to be made in order to explain the contrast between (86) and (78). This is another reason not to consider the preverbal vowel in (86) as a subject clitic.

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4.2.4.   Preliminary Conclusions

In §2.4 we have argued that the preverbal vowel found in the first person singular and plural and the second person plural is **not** a subject clitic pronoun. We have analyzed the preverbal [ə] as the realization of a functional head, and we have taken the subject of these sentences to be a null weak pronoun (*pro*), as in Italian (§2.4.3). As for interrogative sentences, we have adopted an analysis whereby the verb moves from its "declarative" position to a position preceding the subject clitic pronoun, and in §4.1 we developed an analysis of the enclitic material that does not make recourse to the two-paradigm hypothesis. In §4.2.1-4.2.3, we have seen that if the postverbal elements in (79) are not related to the preverbal vowel, we can analyze them as enclitic subject pronouns. We suggest that the enclitic pronouns in the first person singular and plural and the second person plural are the true subjects of the clause on a par with the subject clitics in the other three persons of the paradigm. The proposal is summarised in (87).

(87)	(a) preverbal subject	(b) enclitic subject pronouns
	(declarative sentences)	(interrogative sentences)
1st sg.	*pro*	/i/
1st pl.	*pro*	/i/
2nd pl.	*pro*	/v/

In what follows, we analyze the phonology of the enclitic pronouns in (79) and (87), and we address the syntactic question behind these data: why does *pro* occur in declarative sentences and subject clitics occur in interrogative sentences in these three persons of the paradigm?

4.2.5.   The Phonological Form of Enclitic Pronouns

In (88), we propose that the underlying form of the first person singular and plural enclitic pronouns is /i/, although they are pronounced [jə] or [j]. We suggest that the analysis in §4.1 for the third person plural pronoun /i/ also applies to the first person singular and plural enclitic pronouns. /i/ is realized as [jə] in enclitic position because of the prosodic constraints active in this dialect. (See (77).)

(88)   /be:v-i/   >   [be:v-jə]   'am I drinking?'
       /buvum-i/   >   [bu'vum-jə]   'are we drinking?'

This analysis predicts, correctly, that if the verb ends in a stressed vowel, the pronoun should be able to syllabify with it with no epenthesis (and with gliding of the /i/). The

form [go-j] does not violate any of the constraints mentioned in §4.1: it does not end in an unstressed vowel, and the word-final falling diphthong is stressed. (We also find [go-jə] in careful speech.)

(89) /go-i/ > [go-j] 'am I having?'

The second person plural clitic, /v/, surfaces unchanged as [v]. (See footnote 4.)

(90) /bu'vi-v/ > [bu'vi:-v] 'are you:pl drinking?'

The subject clitics proposed for Donceto are listed in (91).

(91) *proclitic subj. pronouns*   *enclitic subj. pronouns*
        -     -   i   i
        t   -   t   v
        l   i   l   i

Notice that the forms of the (true) subject pronouns in (91) are all diachronically motivated. As Vanelli (1984, 1987) and others have noted, the subject clitic pronouns are derived from Latin nominative pronouns. Although Vanelli's diachronic hypothesis raises some questions with regard to the syncretism displayed by preverbal vocalic segments in (3c) (see §3.8 above), it appears to be successful in accounting for the forms of the enclitic pronouns, which we argue are true subject clitics in all six persons. As Vanelli proposes, the first person singular (enclitic) pronoun derives from the Latin first person nominative pronoun <u>EGO</u> > <u>io</u>; it was reduced to a single vowel, /i/, and then extended to the first person plural, which shares the feature [+speaker].[42] This clitic has not been extended to the second person plural form, which, instead, uses the enclitic form /v/ that derives from the Latin pronoun <u>VOS</u>. Therefore, the dialect of Donceto is at stage 2 in the chronology illustrated in (72). (See §3.8 for a discussion of the evolution of the subject clitics *t, l* and *i*.)

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[42]   Why has the same not happened with strong pronouns? Notice that it is generally true of clitics, i. e., also of object clitics, that more syncretism is found with clitic pronouns than with strong pronouns. We believe that the reason for this difference is due to the fact that strong pronouns are less frequent than clitic ones (due to the 'Minimise structure' principle discussed in Cardinaletti and Starke 1999:§7; see §5.1 below), and therefore less subject to diachronic change and hence more regular.

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Furthermore, the enclitic forms of the pronoun are remarkably uniform across dialects (see §4.3 for an account of some microvariation), while the proclitic forms comparable to the schwa in (3c) display great cross-linguistic variation: see (44b) in §2.5.

Based on a detailed study of the dialect of Donceto, diachronic considerations, and cross-linguistic evidence, we conclude that the postverbal non-schwa elements in (4) are true subject clitics. In the second and third person singular and in the third person plural, they are also found preverbally (3a), (3b).

4.3. Microvariation in the Phonology of Enclitic Subjects

We have claimed that the (true) subject clitic pronouns belong to a single paradigm whether they appear preverbally or postverbally, and that differences between the realization of the proclitic and enclitic forms can be accounted for phonologically. We have illustrated this claim by providing a detailed study of the Donceto subject clitic pronouns which are realized differently in different contexts, and we have accounted for the different forms by considering the constraints on phonological structure active in the language (§4.1 and §4.2.5).

In this section we will show that the same analysis applies to other northern Italian dialects. Since each dialect ranks constraints differently, we predict that different output forms will be found given the same or similar inputs. As seen in the data in (92) through (94), the realization of the proclitic and enclitic subject pronoun varies from dialect to dialect, but we claim that for each dialect the output forms, whether proclitic or enclitic, are derived from the same input.[43]

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[43]. In (92)-(94), a word-final unstressed /a/, which is the inflectional morpheme representing the third person forms of first conjugation verbs (and in Bellunese also the second person singular), is raised to [e] before clitics. The raising of unstressed /a/ to [e] in front of subject clitics cannot be used as an argument for the existence of an interrogative inflection, *pace* Fava's (1993) analysis of similar facts in Vicentino (see §5.3). Vowel raising is in fact also found with enclitic object pronouns occurring with imperative verbs: *magna la minestra!* 'eat the soup!' vs. *magnela!* 'eat it!'.

In Venetian, where the phenomenon is also attested, the verb final vowel /a/ is raised to [i] when an enclitic is added. This is found both with enclitic objects (i) and (in archaic forms) with enclitic subjects (ii).

(i) a. *compra el giornal!* 'buy the newspaper!'

(92) **Paduan** (Benincà and Vanelli 1982):

	a.		b.	
	magno		magno	-(**i**)
	te-magni		magni	**-to**
	el-magna		magne	**-lo**
	magnémo		magnémo	-(**i**)
	magnè		magnè	**-o**
	i- magna		magne	-li
	"I/you/he, etc. eat"		"Do I/you/he, etc. eat?"	

(93) **Bellunese** (N. Munaro, personal communication):

	a.		b.	
	magne		magne	**-e**[44]
	te-magna		magne	**-tu**
	al-magna		magne	**-lo**
	magnon		magnon	**-e**
	magné		magné	**-o**
	i- magna		magne	-li

(94) **Verona** (A. Niero, personal communication):

	a.		b.	
	magno		magno	
	te-magni		magni	**-to**
	el-magna		magne	**-lo**

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b.   *compri-o!* 'buy it!'

(ii)   a.   *el compra el giornal* 'he buys the newspaper'

b.   *compri-o el giornal, paron?* 'buys-he the newspaper, sir?' ('are you buying the newspaper?')

[44].   This form is actually pronounced with a short final vowel, although morphologically there are two identical vowels word-finally. Vowel shortening is due to the fact that Bellunese does not permit long vowels in the output. The presence of the enclitic /e/ in the first person singular is supported by data with other verbs. (Data are from N. Munaro, personal communication.)

(i)   ɔ   ɔ-e   'I have'/'have I?'

son   son-e   'I am'/'am I?'

poss   poss-e   'I can'/'can I?'

	magnemo	magnemo	
	magnì	magnì	**-o**
i-	magna	magne	**-li**

We illustrate our point using the data from the dialect of Padua (92), repeated below in phonetic transcription (95).

(95) Paduan

a.		'maɲo	b. 'maɲo	-(j)
	te-'maɲi		'maɲi	-to
	el-'maɲa		'maɲe	-lo
		ma'ɲemo	ma'ɲemo	-(j)
		ma'ɲe	ma'ɲe	-o
	i- 'maɲa		'maɲe	-li

We will show that the dialects of Donceto and Padua have nearly an identical paradigm of subject clitic pronouns with the same distribution (compare (96) with (91)).

(96) Paduan

proclitic subj. pronouns		*enclitic subj. pronouns*	
-	-	i	i
t	-	t	o (< /v/)
l	i (~li)	l	i (~li)

In Paduan, as in Donceto, the first person singular and plural pronouns are realized only enclitically. The input form /i/ is faithfully realized in the output (97a), with optional gliding after the /o/ (97b). Unstressed word-final falling diphthongs are disfavored in this dialect, as in the dialect of Donceto (see §4.1). In Donceto, these diphthongs are avoided in favor of a form with a rising diphthong (see (77)), while in Paduan the final glide can be optionally deleted (97c).

(97)   /maɲo - i/   /maɲemo - i/
a.	['maɲo-i]	[ma'ɲemo-i]
b.	['maɲo-j]	[ma'ɲemo-j]
c.	['maɲo]	[ma'ɲemo]

The second person plural form has a subject clitic in postverbal position only. The clitic /o/ is realized faithfully in the output.[45]

(98) /ma'ɲe - o/   >   [ma'ɲe - o]

In §4.2.5 we attempted to account for the form of the subject clitic synchronically as well as historically. What is the etymology of the /o/ in (98) above? We claim that an earlier form of this pronoun was /v/ (99a), as in Donceto. Since final /v/ is not permitted, an epenthetic vowel was added after the /v/.[46] For reasons that will be fully explained in the following paragraphs, the vowel /o/ was added, resulting in the reconstructed form */ma'ʲe - vo/ in (99b).

(99) a. */ma'ɲe - v/
      b. */ma'ɲe - vo/
      c. /ma'ɲe - o/

In Old Paduan, there was a tendency to delete intervocalic /v/: for example, *zòene* < Lat. *iōvene* 'young', a tendency that is still productive today: for example, [sa'ɛre] is an alternate pronunciation of [sa'vɛre] 'to know' (Rohlfs 1966: 293, Zamboni 1974: 41). Hence, the intervocalic /v/ of /maɲe-vo/ was deleted, resulting in /maɲe-o/ (99c). The /o/ which historically was an epenthetic vowel was reinterpreted as the subject clitic pronoun when the /v/ was deleted.

We now investigate the third person singular clitic, /l/, which is realized as [el] proclitically and [lo] enclitically.[47]

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[45].   In (95), taken from Benincà and Vanelli (1982), the second person plural enclitic is transcribed -*o*. Benincà (1983) instead reports -*u*. P. Benincà (personal communication) informs us that these are phonetic variants, and furthermore that the final vowel tends to be glided. All of these variants — [ma'ɲe-o], [ma'ɲe-u], [ma'ɲe-w] — derive from input /ma'ɲe-o/ with, respectively, no changes in the output, vowel raising word-finally, or avoidance of hiatus through diphthongization (*HIATUS).

[46].   We will see below that the form in (99a) was ill-formed for another reason as well: a constraint banning syllabification of enclitics with their hosts.

[47].   Evidence that the third person singular form is /l/ come from the fact that it is realized as /l/ when epenthesis is not necessary: Padua: *l e* 'he is'; Belluno: *lu l parla* 'he speaks' (Zamboni 1974: 58).

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(100)   /l - maɲa/   >   [e̲l - 'maɲa]

          /maɲa - l/   >   ['maɲe - l̲o̲]

Notice that an extra vowel is inserted in both output forms. Two questions immediately come to mind. First, if the extra vowel is an epenthetic vowel, why does its position vary (i. e., it inserted <u>before</u> the unsyllabified /l/ proclitically and <u>after</u> the unsyllabified /l/ enclitically)? Second, why does the quality of the epenthetic vowel differ in the two forms (i. e., it is /e/ in the proclitic form and /o/ in the enclitic form)?

The analysis of the proclitic form is given in (101). As in Donceto (see §2.1.1), an epenthetic vowel is inserted before an unsyllabified consonant, and in Paduan the epenthetic vowel is /e/.[48]

(101)   /l + maɲa/   >   [e̲l 'maɲa]

Enclitically, we might expect a form similar to that found in Donceto, but this is not the case.

(102)   /maɲa + l/   >   *[maɲe-l]

The form *[maɲe-l] is not found because of a constraint against the syllabification of enclitics with their hosts (a constraint which also applies to the form in (99a)). This constraint has to do with the prosodic representation of clitics, a topic we have not yet explicitly addressed, and an issue which is unresolved in the literature.[49] We begin by

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[48].   Unlike Donceto, in Paduan the epenthetic vowel is inserted before /l/ with verbs beginning with /s/ plus consonant clusters.

(i)   /l skrive/   >   [e̲l skrive]   'he writes'

While utterance-initial /s/ + consonant clusters are tolerated in Donceto and Paduan, internal /s/ + consonant clusters are not tolerated in Donceto while they are in Paduan.

[49].   Some of the proposals for the prosodic treatment of clitics include the adjunction or incorporation of the clitic into the Prosodic Word (PrWd), the incorporation of the clitic into the Phonological Phrase, the creation of a special prosodic category called the Clitic Group, etc. (Auger to appear, Buckley 1998,

noting that, prosodically, verb + enclitic structures are treated differently in Donceto and in the Veneto dialects. In Donceto, constraints that apply to prosodic words but not across word boundaries also apply to verb + enclitic structures. For example, /v/ is considered a "lengthening consonant" which lengthens the preceding stressed vowel (see Ghini 2001 and note 4). Its effects are found within a word (103a) and within a verb plus enclitic structure (103b), but not across word boundaries (103c).

(103) a. *dur'miv   dur'mi:v   'I was sleeping'
      b. *'gi-v   'gi:-v   'do you:pl have?'
      c. 'gi vent an   *'gi: vent an 'you:pl have twenty years' ('you are twenty
                                                                   years old')

Therefore, in Donceto we assume that the verb + enclitic structure is treated phonologically as a Prosodic Word.

In the Veneto dialects, on the other hand, constraints that apply to Prosodic Words do not apply to verb + enclitic structures. For example, in Paduan we find a slight lengthening of the stressed vowel in a penultimate open syllable (similar to what we find in standard Italian) (104a). (We indicate slight lengthening of the vowel with a single dot after the vowel.) This process does not apply across word boundaries (104b), and crucially it does not occur with verb + enclitic structures (104c). (The same holds in Venetian for the third person singular. For those speaker who have enclisis in the second person singular form of interrogatives, the verb displays a closed syllable: *gas-tu*, so vowel lengthening cannot be checked. See footnote 62.)

(104) a. *'galo   'ga·lo   'rooster'
         *'sito   'si·to   '(internet) site'
      b. el 'ga la 'gondola   *el 'ga· la 'gondola   'he has the gondola'
         te 'si to a'migo, ti *te 'si· to a'migo, ti 'you are your friend'
      c. 'ga-lo   *'ga·-lo   'does he have?'
         'si-to (ndà casa) *'si·-to (ndà casa)   'are you:sg (gone home)?'

Therefore, in Veneto dialects we assume that verb + enclitic structures are not Prosodic Words (although we do not take a position as to the exact prosodic representation of

Green ms, Grijzenhout and Kraemer ms, Loporcaro 2000, Monachesi 1996, Nespor and Vogel 1986, Peperkamp 1997, Selkirk 1995).

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these structures).[50]

Now that we have established the fact that verb + enclitic structures in the Veneto dialects are not Prosodic Words, we understand why the enclitic cannot be syllabified with the verb in (102).[51] In these dialects, the enclitic pronouns must form their own prosodic unit, and specifically their own syllable.[52]

Since the enclitic cannot be adjoined to the verb in (102), an epenthetic vowel is added.[53] We expect the resulting form to be *[maɲe-le] (105a). However, this form is also unattested. In (105b), we see that the epenthetic vowel used in this context is not the usual one. Instead of /e/, we find /o/.

(105)   /maɲa + l/   >   a. *['maɲe-le]
                            b. ['maɲe-lo]

Why is a different epenthetic vowel used in (101) and (105b)? Since word-final position is reserved for (vocalic) inflectional morphemes, the word-final epenthetic vowel is in a morphologically salient position. And /e/ is a morphologically marked vowel that represents plural and feminine, two marked categories, in the (pro)nominal system. In

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[50]. The fact that verb + enclitic structures are not treated as Prosodic Words also argues against an analysis of the enclitics as inflectional affixes (Benincà and Vanelli 1982, Benincà 1983, Fava 1993, Poletto 2000). Also see §5.3 below.

[51]. Perhaps cases of an epenthetic [t] in interrogatives (for example, *son-ti* 'am I?' in many Veneto dialects (Zamboni 1974: 50, 59)) might be explained along these lines. Namely, consonant epenthesis is a means of keeping the enclitic /i/ from syllabifying with the verb.

[52]. Apparent exceptions can be explained on independent grounds. The syllabification of enclitic /i/ as an offglide — /maɲo-i/ > ['maɲo-j] 'do I eat?' — is due to a high ranking constraint banning hiatus vowels: *HIATUS (see footnote 45 above). And the syllabification of proclitic /l/ as the onset of vowel-initial verbs — /l e andao/ > [l e an'dao] 'he is gone' ('he went') — is due to the fact that other candidate outputs with an epenthetic vowel fare worse: *[le e an'dao] has a *HIATUS violation, and in *[el e an'dao] the /l/ would be resyllabified as the onset of the verb (or incur an ONSET violation), so epenthesis did not result in a better structure. However, we do optionally find [el ɛ] along with [l ɛ] 'he is' in Belluno (Zamboni 1974: 59).

[53] The epenthetic vowel is added <u>after</u> the clitic, not <u>before</u> the clitic which would result in a violation of *HIATUS.

(105a) we have a morphologically marked vowel in a morphologically salient position, an undesirable structure given the fact that [e] is epenthetic. Instead a *morphologically neutral* vowel is used in final position: /o/ (105b).[54]

In Paduan the default <u>phonological</u> vowel is different from the default <u>morphological</u> vowel.[55]

(106)   Paduan   default phonological vowel: /e/
                 default morphological suffix: /o/

There is much evidence from the Italian dialects and from standard Italian of the use of a morphologically neutral vowel rather than the usual epenthetic vowel in positions reserved for inflectional morphemes, a phenomenon we call *morphological epenthesis*. Although, as far as we are aware, we are the first to identify this phenomenon, epenthetic vowels with lexical properties are widely attested (see Steriade 1995).

We provide two examples of *morphological epenthesis* from the history of Italian.[56]

In Latin, the third person plural form of the verb ended in the inflectional morpheme /nt/. Given various historical phonological changes, we would expect the Italian forms to end in /n/. However, this is not found (107a).

(107) AMANT   >   a. *aman   '(they) love'
                   b. *aman<u>i</u>
                   c. aman<u>o</u>

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Since Italian verbs (like most words) end in a vowel, the consonant-final form in (107a) is ill-formed. Hence, a final vowel must be added. We do not find the usual epenthetic vowel (/i/) in this context (107b),[57] because verb-final /i/ usually represents the second person singular morpheme (*ami* 'you:sg love'). Instead, a morphologically neutral vowel is used: /o/ (107c).[58]

A similar explanation applies to the forms of the masculine singular definite article in Italian. (See Vanelli 1992, Tranel and Del Gobbo 2002, and Repetti ms for a discussion of the definite article in Italian, and Clivio 1971, Butler 1972, Telmon 1975, Vanelli 1992, Repetti 1995b, and Repetti 1997 for the definite article in northern Italian dialects.) The underlying form of the article is /l/, which surfaces faithfully if the /l/ can be syllabified (108a). If the /l/ cannot be syllabified, the epenthetic vowel /i/ (see note 57) is inserted before the /l/ (108b). This is precisely the same process we saw for Donceto (14) and Paduan (101). As in Donceto, if there are two unsyllabified consonants, the epenthetic vowel is inserted between them. However, surprisingly, the epenthetic vowel /i/ is not used (108c). Instead we find the morphologically neutral vowel /o/ used in this morphologically salient position (108d).

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[57]. We will assume that the epenthetic vowel in Italian is /i/. This is the vowel used to break up unacceptable consonant clusters historically (alisna > les[i]na 'awl', blas(phe)mat > bias[i]ma 's/he blames') and synchronically in popular spoken varieties of Italian (atmosfera > at[i]mosfera 'atmosphere', psicologo> p[i]sicologo 'psychologist').

[58]. The standard explanation of why /o/ is found in this form of the verb has to do with analogy between the first person singular and third person plural forms of the verb 'to be' (Rohlfs 1968: 255; Maiden 1995: 130-131). In Latin the inflectional morpheme for the first person singular form of the verb was /o/. This vowel was generalized to all first person singular forms, even if the (irregular) Latin form originally did not have one: SUM > *son > son+o 'I am'. The third person plural form of the verb 'be' was similar to the first person singular form, and, therefore, also acquired a final /o/: SUNT > *son > *sono* 'they are'. In other words, given the formal identity of <u>son</u> 'I am' and <u>son</u> 'they are', when <u>son</u> 'I am' became <u>sono</u>, the verb meaning 'they are' also changed to <u>sono</u>. The final /o/ of the third person plural form of this particular verb was then extended to all verbs.

(108) a.　/l/ > [l]　　　/l + amico/　　> [la.mi.ko]　　'the friend'

　　b.　/l/ > [i̱l]　　　/l + kane/　　> [i̱l.ka.ne]　　'the dog'

　　c.　/l/ > *[li̱]　　　/l + spɛkkjo/　> *[li̱s.pɛk.kjo]　'the mirror'

　　d.　/l/ > [lo̱]　　　/l + spɛkkjo/　> [lo̱+s.pɛk.kjo]　'he mirror'

As these two examples from Italian show, the default phonological vowel /i/ is not used in morphologically salient positions.

Returning to the analysis of subject clitics in Paduan, we have seen that we can derive proclitic [el] and enclitic [lo] from the same input /l/. A similar analysis holds for the second person singular forms: proclitic [te] and enclitic [to].

(109)　/t - maɲi/　　> [te̱ - 'maɲi]

　　　/maɲi - t/　　> ['maɲi - to̱]

In the proclitic form, the /t/ cannot be syllabified, so an epenthetic vowel (/e/) is inserted. However, it is inserted *after* the /t/ rather than *before* it.

(110)　/t - maɲi/　　> a.　*[e̱t - 'maɲi]

　　　　　　　　　　b.　[te̱ - 'maɲi]

As suggested in §2.1.4 above, sonority constraints may dictate whether a consonant is syllabified as an onset or as a coda, with low sonority onsets and high sonority codas being the preferred forms. Therefore, while high sonority /l/ is syllabified as a coda (101), low sonority /t/ is syllabified as an onset (110b).

Some possible output forms are suggested in (111) for the verb+enclitic structure for the second person singular.

(111)　/maɲi + t/　> a.　*['maɲi-t]

　　　　　　　　　　b.　*['maɲi-te̱]

　　　　　　　　　　c.　['maɲi-to̱]

The form in (111a) is not found because of the ban on the syllabification of enclitics with their host. The form in (111b) is also unattested because word-final position is a morphologically salient position which requires a morphologically neutral vowel. Therefore, the morphologically neutral vowel /o/ is used, and we find the form in (111c).

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We propose that the third person plural clitic has two allomorphs: /i/ and /li/ and that the choice between the two is phonologically conditioned.

(112) /li~i - maɲa/   >   [i - 'maɲa]

         /maɲa - li~i/   >   ['maɲe - li]

Proclitically /i/ is chosen over /li/ because of a constraint that favors the shorter allomorph: *STRUCTURE. (See Tranel and Del Gobbo 2002 and references therein for a discussion of the *STRUCTURE family of constraints.) This constraint is crucially ranked higher than the ONSET constraint (requiring syllables to have onsets).

(113)

li~i maɲa	*STRUCTURE	ONSET
(a) li maɲa	*!	
(b) i maɲa ←		*

Enclitically, /li/ is chosen over /i/ because of the high-ranked constraint barring vowels in hiatus (*HIATUS), metrical constraints disfavoring final unstressed falling diphthongs (*VG#), and the MAX constraint blocking deletion of the mandatory clitic.[59] All these constraints are ranked higher than *STRUCTURE.[60]

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[59].   In Donceto, the forms of the first person singular, first person plural, and third person plural clitics are identical (91). This is not the case in Paduan. Here the first person singular and plural clitics are identical: /i/, but the third person plural has two allomorphs: /i/ and /li/. Similarly, in the dialect of Bologna, the enclitic forms of the first person singular and plural pronouns are identical to each other but different from the third person plural form: ['kræd-ja] 'do I believe?', [kar'dæn-ja] 'do we believe?', ['krædn-i] 'do they believe?' (data are from Gaudenzi 1889).

[60].   Zamboni (1974) reports an alternative pronunciation ['maɲe-j]. If we assume that alternative forms mean variable rankings of constraints, then *VG# and *STRUCTURE have a variable ranking. In addition, given the fact that for the first person singular, both [maɲo-j] and [maɲo-] are found (97), *VG# and MAX also can have a variable ranking. So the final ranking for Padua is: *VV >> MAX ~ *VG# ~ *STRUCTURE >> ONSET. Similar variants are found in the dialect of Verona: [ɛ-li]/[ɛ-j] 'are they?', [ga-li]/[ga-j] 'have they?' (Zamboni 1974: 50).

(114)

maɲa li~i	*HIATUS	*VG#	MAX	*STRUCTURE
(a) 'maɲe-li ⬅				*
(b) 'maɲe-i	*!			
(c) 'maɲe-j		*!		
(d) 'maɲa-			*!	

Independent evidence of this account comes from the patterning of the masculine plural accusative clitics. The following data from Bellunese (N. Munaro, personal communication) show that the third person forms of the accusative clitics are identical to the third person forms of the subject clitics. For the third person singular we find [al] in proclitic position and [lo] enclitically (115a), and for the third person plural we find [i] in proclitic position and [li] enclitically (115b).

(115) a. <u>Al</u> magne   'I eat it'
         Magne-<u>lo</u>!   'eat it!'
    b. <u>I</u> magne   'I eat them'
         Magne-<u>li</u>!   'eat them!'

5. Clitic vs. Weak Pronouns

We have proposed that in the first person singular and plural and the second person plural, the subject is different in declarative and interrogative sentences (see (87) and §4.2.4). How is the correct subject chosen in the two cases? In other words, why is the enclitic pronoun in (116a) not possible in proclitic position in (116b)?, and viceversa, why is the null subject *pro* not possible in interrogative sentences, as shown by the contrast between (117a) and (117b)? (We leave out the optional preverbal schwa.) We address the latter question in §5.1, while the answer to the former question is postponed to §5.4.

(116) a. be:v-jə   'am I drinking?'
         bu'vum-jə   'are we drinking?'
         bu'vi:-v   'are you:pl drinking?'

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   b. *i be:v   'I drink'

     *i bu'vum   'we drink'

     *v bu'vi   'you:pl drink'

(117) a. *be:v *pro*   'am I drinking?'

     *bu'vum *pro*   'are we drinking?'

     *bu'vi: *pro*   'are you:pl drinking?'

   b. *pro* be:v   'I drink'

     pro bu'vum   'we drink'

     pro bu'vi   'you:pl drink'

5.1. Clitic Pronouns in Interrogative Sentences

Consider the derivation of clitic pronouns adopted in §2.3. A consequence of the two-step clitic derivation is that clitic pronouns occupy a structurally higher position with respect to weak pronouns. This is shown for subject pronouns in French (118), which reproduces the currently assumed analysis of French declarative and interrogative sentences. (See §2.3 above.)

(118) a.   [AgrSP il$_k$ a$_i$ …   [VP t$_k$ bu]]   'he has drunk'

   b. [YP a$_i$-t-il$_k$ [AgrSP t$_k$ t$_i$ …   [VP t$_k$ bu]]]   'has-he drunk?'

   c. *[YP a$_i$-t   [AgrSP il$_k$ t$_i$ …   [VP t$_k$ bu]]]   'has he drunk?'

In declarative sentences, as in (118a), the weak subject pronoun *il* is taken to occur in specAgrSP. In interrogative sentences, as in (118b), the postverbal pronoun *il* is taken to be a true clitic, i. e., a head. The subject pronoun cliticizes (i. e., adjoins) to a functional head of the Infl layer, which we have called Y here, and the verb adjoins to the subject pronoun. We follow Rizzi's (1993) Theory of Encliticization reported in (119).

(119)   We have enclisis if:

      a. the verb is morphologically complete under the cliticization site;

      b. the verb must move at least as far as the cliticization site.

Enclisis is permitted in (118b) because the verb is morphologically complete, i. e., it has checked all its morphologically relevant features before adjoining to (the clitic is adjoined to) the head Y (as stated in §3.1.4, the features on Y are not morphologically expressed in French). The representation in (118c), where the verb has moved across the weak subject pronoun *il*, is considered to be ungrammatical.

The French paradigm shows that there is a correlation between the scope of verb movement and the occurrence of clitic pronouns. When verb movement across the subject takes place, as in interrogative sentences, the head-movement step of the clitic derivation becomes possible.

Why is (118c) ungrammatical? According to the choice principle discussed in Cardinaletti and Starke (1999:§7), a clitic pronoun should always be preferred over a weak pronoun. In their Deficiency Theory, a clitic pronoun has a structure smaller than a weak pronoun, and 'Minimise Structure' requires that the smallest possible structure is chosen ("economy of representations"). Since in interrogative sentences, the clitic pronoun *il* is possible, it must be used, as in (118b). The sentence in (118c), which contains the weak pronoun *il*, is ruled out.

The analysis developed for French allows us to account for the interrogative sentences in Donceto and to explain the contrast between (116a) and (117a).

As assumed above, verb movement applies in Donceto interrogative sentences. The verb moves to the left of the subject clitic pronoun, and the verb-enclitic order is produced. We illustrate the derivation for the second person singular.

(120) $[_{YP}$ be:v$_i$-ət$_k$ $[_{AgrSP}$ t$_k$ t$_i$ ... $[_{VP}$ t$_k$ t$_i$ $]]]$ 'drink-you:sg?'

In the first person singular and plural and in the second plural of the Donceto dialect, the paradigm is formally identical to French (118). We illustrate the derivation for the first person singular. Declarative sentences contain the weak subject *pro*, as shown in (121a), which is parallel to (118a). In interrogative sentences, verb movement makes a clitic pronoun possible, as shown in (121b), which is parallel to (118b). According to the Minimise Structure principle, a clitic pronoun is preferred over the weak pronoun *pro*. The starred sentence in (121c) (also see (117a)) is parallel to French (118c).[61]

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[61]. A reviewer asks in which sense *pro* should be "stronger" that a clitic pronoun and comments as follows: "Since *pro* is related to agreement, one would think that it should be 'weaker' than a clitic, given the lesser degree of morphological independence from the verb that agreement has compared with clitics". Our understanding of the difference between *pro* and clitic pronouns is in terms of the

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(121) a.   [$_{AgrSP}$ *pro*$_k$ be:v$_i$ …   [$_{VP}$ t$_k$ t$_i$]]   '[I] drink'

      b. [$_{YP}$ be:v$_i$- jə$_k$ [$_{AgrSP}$ t$_k$ t$_i$ …   [$_{VP}$ t$_k$ t$_i$]]]   'drink-I?'

      c. *[$_{YP}$ be:v$_i$ [$_{AgrSP}$ *pro*$_k$ t$_i$ …   [$_{VP}$ t$_k$ t$_i$]]]   'drink [I]?'

The existence of subject enclitic pronouns in the first person singular and plural and in the second plural, which do not have proclitic pronouns, is thus a consequence of the syntactic derivation and in particular of the scope of verb movement. This is rather straightforward, given that enclitic pronouns are found in interrogative sentences, and the verb in interrogative sentences is taken to move to a higher position with respect to the verb in declarative sentences.

5.2.   Microvariation in Interrogative Sentences

While in Donceto three persons have preverbal subject clitics (/t/, /l/ and /i/) and all six persons are represented postverbally, this is not the case in all dialects. However, the data are not random, and the generalization can be summarized as follows (Renzi and Vanelli's 1983 'Generalization 9').

(122)   *If interrogative sentences are formed via subject-inversion (i.e., via verb movement, A.C. & L.R.),*

       (i) the number of enclitic pronouns found in interrogative sentences is equal to or greater than the number of proclitic pronouns in declarative sentences, and

       (ii) the subject pronouns found in proclitic position are also found in enclitic position.

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clitic>weak>strong hierarchy, and only amounts to the fact that *pro* must be considered a maximal projection, parallel to a weak pronoun, which is stronger than a clitic pronoun in that hierarchy. As shown in Cardinaletti (2002), null clitic pronouns do not exist. If they existed, sentences with and without clitic pronouns should behave in the same way, but this is not what is found. Consider Italian sentences with an anticipatory clitic pronoun. When an anticipatory clitic pronoun is present, as in *L'ho già comprato, il giornale* "[I] it have already bought, the newspaper", we have an instance of Right Dislocation; when there is no clitic pronoun, as in *Ho già comprato, il giornale* "[I] have already bought, the newspaper", we have an instance of a different construction with different syntactic properties, namely Marginalization. If null clitic pronouns do not exist, it follows that a null subject (*pro*) can only be a maximal projection, hence a weak pronoun.

The data in (92) through (94), repeated below as (123)-(125), illustrate the generalization. Paduan and Bellunese are very similar to Donceto in that three clitics are present in declarative sentences and six in interrogative sentences. In the dialect of Verona, declarative sentences display three subject clitics and interrogative sentences display four subject clitics.

(123) **Paduan** (Benincà and Vanelli 1982):

	a.			b.		
		magno			magno	-(**i**)
	te-magni				magni	**-to**
	el-magna				magne	**-lo**
		magnémo			magnémo	-(**i**)
		magnè			magnè	**-o**
	i- magna				magne	**-li**
		'I/you/he, etc. eat'			'Do I/you/he, etc. eat?'	

(124) **Bellunese** (N. Munaro, personal communication):

	a.			b.		
		magne			magne	**-e**
	te-magna				magne	**-tu**
	al-magna				magne	**-lo**
		magnon			magnon	**-e**
		magné			magné	**-o**
	i- magna				magne	**-li**

(125) **Verona** (A. Niero, personal communication):

	a.			b.		
		magno			magno	
	te-magni				magni	**-to**
	el-magna				magne	**-lo**
		magnemo			magnemo	
		magnì			magnì	**-o**
	i- magna				magne	**-li**

The Paduan and Bellunese enclitic paradigm is derived in the same way as the Donceto dialect. Verb movement to the head Y produces the verb-enclitic order in the second and third person singular and in the third person plural. In the other persons of the paradigm, the verb also moves higher than in the corresponding declarative sentences. Verb movement makes the enclitic subject possible instead of the null category *pro*. To

account for the Verona data, we suggest a similar analysis: verb movement to Y produces the verb-enclitic order in the second and third person singular and in the third person plural. In the second person plural, the verb also moves higher than in the corresponding declarative sentences, and the enclitic pronoun appears in the second person plural as in Donceto, Paduan and Bellunese. No verb movement to Y, however, takes place in the first person singular and plural and hence, differently from the other dialects, no enclitic pronoun shows up in these persons.

In other dialects, such as the dialect of Trieste, verb movement to Y does not take place in any person, and subject pronouns are proclitic in both declarative and interrogative sentences. (See note 27 for the same possibility in Donceto and note 62 for Venetian and French.)

(126) **Trieste** (M. Viezzi, personal communication):

	a.		b.	
		magno		magno?
	te-magni		**te**-magni?	
	el- magna		**el**- magna?	
		magnemo		magnemo?
		magné		magné?
	i- magna		**i**- magna?	

In the literature, there is no account for the generalization in (122). We provide one, based on our analysis of the distributional differences between proclitic and enclitic paradigms. Since in our analysis, the occurrence of the clitics in postverbal position depend on the scope of verb movement, we predict that in enclitic position we would find the same pronouns that we find in proclitic position or more (but not fewer). Because of verb movement, pronouns of certain persons of the paradigm can become available in interrogative sentences that are not possible in declarative sentences.[62]

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[62] As the italicized if-clause in (122) explicitly states, the generalization is valid for those dialects where verb movement produces a verb-enclitic order. A dialect such as Venetian, which has three proclitic pronouns ([ti], [el], [i]) but only two enclitic pronouns ([lo], [i]), does not contradict this generalization contra *prima facie* evidence.

(i)	a.	Ti ga do libri.	(ii)	a.	*Cossa ga-s-tu?
		you have two books			what have-you? (What's the matter with you?)
	b.	El ga do libri.		b.	Cossa ga-lo?

In conclusion, microvariation in the occurrence of proclitic vs. enclitic pronouns is due to the different scope of verb movement in the different dialects.

Since the true subject clitic pronouns all belong to the paradigm that derives from Latin nominative pronouns (see §4.2.5), a third claim should be added to the generalization in (122), which can be formulated as in (iii).

(127)   *If interrogative sentences are formed via subject-inversion*,

  …

  (iii) The surface forms of all the enclitic pronouns are fully predictable, as are those of proclitic pronouns.

As we have seen in §4.3, no remarkable cross-linguistic variation is found, and all surface differences are due to minor phonological constraints active in the individual languages.

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	he has two books		what has-he?
c.	I ga do libri.	c.	Cossa ga-i?
	they have two books		what have-they?

As the contrast between (iia) and (iii) shows (from Poletto 2000: 29), second person singular interrogatives do not display enclitic pronouns because they are not formed by verb movement, which makes the absence of a second person singular enclitic pronoun a trivial consequence.

(iii) Coss' ti ga?   'what you have' (What's the matter with you?)

Poletto (2000: 29) proposes that in (iii), the verb moves to C together with the subject clitic. A disadvantage of Poletto's analysis is that it cannot be extended to account for e.g. French (iv) (Poletto and Pollock 1999) and Caribbean Spanish (v) (from Ordoñez and Olarrea 2000).

(iv) Quand tu pars?   'when you leave' (When do you leave?)
(v)   Qué tú quieres?   'what you want' (What do you want?)

In (iv) and (v), the subject pronoun that appears between the wh-phrase and the verb cannot have been moved to C together with the verb because it is not a clitic but a weak pronoun. Our analysis, on the other hand, can capture the parallelism between Venetian (iii) (and related constructions in other dialects, see (126)) and French (iv) and Caribbean Spanish (v).

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5.3. Against the Two Paradigm Hypothesis

Our proposal makes previous analyses of enclitics superfluous. To account for the differences between proclitics and enclitics in French and northern Italian dialects, various researchers have adopted the "two paradigm" hypothesis and assumed that enclitic elements do not belong to the same paradigm as proclitic elements, but have a special status (§4). For French, Friedemann (1995) analyzes enclitic elements as agreement markers, and Sportiche (1999) as morphological affixes on the verb. As for northern Italian dialects, Benincà and Vanelli (1982), Benincà (1983) and Fava (1993) speak of an interrogative conjugation, with the enclitic pronoun incorporated as an affix into the verbal form (also see Rohlfs 1968 and Zamboni 1974); Poletto (2000: 55) takes them to be agreement morphemes on the verb (whose features are checked in a special functional position, AgrC, located between vocalic and consonantal proclitics); Munaro (1999: 11, 19) takes them to be a different series of subject clitics occurring in Type°.

There is a high cost of these analyses: paradigms of pronouns must be marked in the lexicon as either 'word/affix' or 'proclitic/enclitic' or 'declarative/interrogative'. First, it is desirable not to posit a word vs. affix lexical difference in the absence of definitive evidence; the null hypothesis is that proclitic and enclitic elements are the same lexical items. Second, it is desirable to derive the proclitic vs. enclitic status of clitic pronouns from independent phonological and/or syntactic principles (see note 38). Furthermore, apart from subject clitics, no other type of subject is marked as to its occurrence in declarative and interrogative sentences. Finally, no two-paradigm hypothesis is necessary for other clitic pronouns, such as object clitics (see note 40), and an unmotivated difference is thus postulated between subject and object clitics. Our analysis is superior to the above-mentioned analyses because it does not force us to make any of these ad hoc assumptions.

Another positive consequence of our analysis is that it can predict the cross-linguistic variation concerning the number of subject clitics found in preverbal vs. postverbal position, which varies from dialect to dialect (§5.2). If enclitic elements were not pronouns but agreement markers, morphological affixes, or a different series of subject clitics, there would be no way to account for Renzi and Vanelli's generalization in (122): we might expect fully regular paradigms (i. e., enclitic pronouns are always obligatory), or enclitic paradigms with arbitrary differences with respect to the proclitic paradigms, something which is not found across languages.

Furthermore, under these other approaches we might expect greater variation in the phonological form of enclitic pronouns with respect to proclitic pronouns, something

which is again not found across languages (see claim (iii) in (127)). While the observed phonological uniformity would remain mysterious under the above approaches, our proposal straightforwardly accounts for it. As we have shown in §4.3, the phonological differences between proclitics and enclitics are minor and can be derived via productive phonological rules.

Finally, all the above analyses (apart from Munaro 1999) make one wrong empirical prediction concerning the phonology of verb-enclitic sequences. Since they analyze enclitic material as an inflectional morpheme on the verb, the verb + enclitic should count as a Prosodic Word, contrary to what is found (see §4.3).

5.4. Weak Pronouns in Declarative Sentences

We now address the question raised by the contrast between (116b) and (117b): why is an overt clitic ungrammatical in proclitic position and a null subject is found instead? The answer to this question also allows us to understand why in declarative sentences, some persons of the paradigm have a null subject (*pro*), while the other persons have a proclitic pronoun (see (40)).

Under the hypothesis that *pro* is a weak pronoun (Cardinaletti and Starke 1999:§3.4; also see note 61), the sentences in (117b) show that in preverbal position, a weak pronoun is used instead of its clitic counterpart. According to the choice principle discussed in Cardinaletti and Starke (1999:§7), this is an unexpected state of affairs since, as we have seen in §5.1, a clitic pronoun should always be preferred over a weak pronoun. Since the Donceto dialect has clitic pronouns, i. e., those used in enclitic position, why is a weak pronoun used in preverbal position instead of its clitic counterpart? Given that a weak pronoun is only possible if the clitic alternative is independently ruled out, we should look for a reason that excludes the occurrence of preverbal clitic pronouns in these persons of the paradigm.

Notice that under the hypothesis that *pro* is the null counterpart of the French weak pronouns *je*, *tu*, *il*, etc., the very same question arises in French for all persons of the paradigm. Since French has clitic subject pronouns (i. e., those used in enclitic position in interrogative sentences), why are weak pronouns used preverbally in declarative sentences instead of the clitic counterparts?

We suggest that the correlation between the distribution of subject clitics and verb movement is the answer here, too. The impossibility of preverbal clitics in the first person singular and plural and in the second person plural of Donceto and in all persons

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in French declarative sentences has to do with the limited scope of verb movement. As seen in §5.1, a pronoun can cliticize (i. e., move a step further than its weak counterpart) only if the verb moves sufficiently high in the Infl layer. Thus, in the persons of the Donceto paradigm that have proclitic pronouns (second person singular and third person singular and plural), the finite verb must move to a higher head with respect to those persons that have *pro* as a subject (first person singular and plural and second person plural).

As seen in §5.1 for interrogative sentences, the extra step of verb movement makes the head-movement step of the clitic derivation possible. When the verb does not undergo this extra step, the occurrence of a clitic pronoun is prohibited and the presence of a weak pronoun is ruled in. The same analysis holds for French, *modulo* pro-drop. While the weak pronoun is null in Donceto, it is overt in French, due to the negative value of the pro-drop parameter. We provide the relevant structures in (128), where we call the extra head X (see (35)). As suggested above for interrogative sentences, we can understand the ungrammaticality of (128d) as the result of an economy consideration ("economy of representations"). The movement of the verb to a higher position makes a subject clitic pronoun available, which is preferred over the weak counterpart because it has a smaller structure.[63]

(128) a. *French*: $[_{\text{AgrSP}} \text{ } je/tu/il_k \text{ } V_i \dots [_{\text{VP}} \text{ } t_k \text{ } t_i \text{ }]]$

I/you/he, etc.

b. *Donceto 1ˢᵗ sg, 1ˢᵗ pl, 2ⁿᵈ pl*: $[_{\text{AgrSP}} \text{ } pro_k \quad \text{be:}v_i \dots [_{\text{VP}} \text{ } t_k \text{ } t_i \text{ }]]$

[I]   drink

c. *Donceto 2ⁿᵈ sg, 3ʳᵈ sg, 3ʳᵈ pl*: $[_{\text{XP}} \text{ } \text{ət}_k \text{ be:}v_i \text{ } [_{\text{AgrSP}} \text{ } t_k \text{ } t_i \dots [_{\text{VP}} \text{ } t_k \text{ } t_i \text{ }]]]$

you drink

d. *Donceto 2ⁿᵈ sg, 3ʳᵈ sg, 3ʳᵈ pl*: $*[_{\text{XP}} \text{ } \text{be:}v_i \text{ } [_{\text{AgrSP}} \text{ } pro_k \text{ } t_i \dots [_{\text{VP}} \text{ } t_k \text{ } t_i \text{ }]]]$

drink   [you]

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[63].   Standard Italian has the same structure as (128b) in all persons of the paradigm. Thus, it behaves like French (128a) *modulo* pro-drop.

(i) $[_{\text{AgrSP}} \text{ } pro_k \text{ } V_i \dots [_{\text{VP}} \text{ } t_k \text{ } t_i \text{ }]]$

What is X in (128c)? As stated in §2.4.3 above, ϕ-features related to the subject are encoded in functional heads of the subject field. Thus X is a functional head of the subject field. Assuming Rizzi's (1993) proposal concerning encliticization in (119) above, we find proclisis in (128c) because the verb is not morphologically complete when it moves to X. In X, it checks the relevant inflectional features which are part of its morphological make-up.

The scope of verb movement is often related to the features that the verb must check overtly. The proposal in (128) implies that the verb must overtly check more features in the second person singular and the third person singular and plural with respect to the other persons of the paradigm. The comparative data that we discuss in next section provide evidence that our proposal is on the right track.

5.5.   Microvariation in Declarative Sentences

The subject proclitics *t / l / i* are not present in all northern Italian dialects; data are however not random and some generalizations hold, as observed by Renzi and Vanelli (1983).

(129)   (a) Generalization 1:   If a variety has at least one subject clitic, it is the
                                second person singular.
        (b) Generalization 2:   If a variety has two subject clitics, they are the second
                                and third person singular.
        (c) Generalization 3:   If there are three subject clitics, they are the second
                                person singular, third person singular and third person
                                plural.

In Renzi and Vanelli 's (1983) typological study of subject clitics in Romance, they observe that in all dialects that have subject clitic pronouns, there is a clitic for the second person singular. Furthermore, if a variety has only one subject clitic, it is the second person singular (for example, in Franco-Provençal). In our terms, this means that the second person singular verb must move higher than the verbs conjugated in the other persons, making the clitic pronoun possible instead of the weak counterpart *pro*. Similarly, 'Generalization 2' states that if a variety has two subject clitics, they are the second and third person singular (for example, the dialect of Milan). In this case, both the second and the third person singular verb must move higher than the verbs

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conjugated in the other persons. And 'Generalization 3' says that if there are three subject clitics, they are the second person singular, third person singular and third person plural, suggesting that the third person plural verb (as well as the second and third person singular verbs) must move higher than the verbs conjugated in the other persons (this is the case in very many northern Italian dialects, including Donceto and Padua, as we have seen). In conclusion, language variation in the occurrence of proclitic pronouns is due to the different scope of verb movement.

Suppose now that in the different persons of the paradigm, the verb moves to different heads. In the dialects where only the second person singular proclitic is attested, the verb only moves to the functional position realizing this feature, as in (130b). In the dialects where both the second and the third person singular proclitics are attested, the verb moves to both functional heads, as in (130c), and this is the reason why both clitics are possible. In the dialects where all three subject clitics are attested, the verb moves to all three functional heads, as in (130d). (Compare with (130a) for the first person singular and plural and the second person plural.)

(130)   3rd pl.   3rd sg.   2nd sg.

a.				[AgrSP *pro*	V_i]
b.			V_i	[AgrSP	t_i]
c.		V_i	t_i	[AgrSP	t_i]
d.	V_i	t_i	t_i	[AgrSP	t_i]

The implications in (130) are in compliance with the serialization of pronouns suggested in Poletto (1999). On the basis of a number of tests (for example, order with respect to negation, occurrence in coordinations), Poletto (1999: 595) shows that the third person plural can be structurally higher than the third person singular, which can be structurally higher than the second person singular.

(131)   3rd pl.   3rd sg.   2nd sg.
        /i/   >   /l/   >   /t/

This is exactly what is expected under our proposal that the different realizations of proclitic pronouns (as well as enclitic ones) are correlated with the scope of verb-movement. The serialization of functional heads in the subject-field arrived at in this

paper is the following.[64]

(132) 1st sg. & pl., 2nd pl   wh   3rd pl.   3rd sg.   2nd sg.

  $[_{ZP}$ ə $[_{YP}$ $[_{X''P}$ /i/ $[_{X'P}$ /l/ $[_{XP}$ /t/ $[_{AgrSP}$ *pro*]]]]]]

Note that (overt) verb movement does not correlate with the *number* of distinctions in the verb inflectional paradigm. While the distribution of proclitic pronouns can be the same across dialects, verbal inflection may be different. Compare the following paradigms of Paduan and Bellunese on the one hand and Donceto on the other.

(133) a. *Paduan*   b. *Bellunese*   c. *Donceto*

      vegno   magne   be:v

   te vien   te magna   ət be:v

   el vien   al magna   əl be:və

      vegnemo   magnon   bu'vum

      vegni   magné   bu'vi

   i vien   i magna   i 'be:vən

In Paduan and Bellunese, the distribution of the proclitic pronouns seems to correlate with the poverty of inflection (see Poletto 1993b: 209 among others): the subject clitics occur in the three persons of the paradigm that have the same verbal form, i.e. *vien* and *magna*. This fact is, however, not replicated in Donceto, where the proclitic pronouns appear in the same three persons of the paradigm, while the verbal forms are morphologically distinct, cf. *be:v*, *be:və*, *be:vən* (see Renzi and Vanelli 1983: §1.2.1 for the same observation for other dialects).

As has been observed many times for a number of other languages (see Vikner 1997 for a detailed survey), (overt) verb movement does not correlate with the *number* of distinctions in the verb inflectional paradigm, but with the *type* of distinctions encoded in the verbal inflection. The three dialects in (133) all encode distinctions related to subject-agreement features.

If clitic pronouns occur when verb movement takes place, these observations support the current view that what motivates (overt) verb movement is a rather abstract notion

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[64].   In (132), the location of the YP projection in the subject-field may at first seem surprising. Consider however the fact that questions always imply the involvement of the addressee by the speaker. The inflectional [wh] feature can thus be naturally taken to be related to the subject-field.

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that does not necessarily have a morphological reflex in the entire paradigm of verb inflection. Further cross-linguistic investigation is of course needed in this area to establish exactly what triggers verb movement to the X head(s) in the different northern Italian dialects.[65]

5.6. Conclusions

We have proposed that the distribution of subject clitics correlates with overt verb movement. In order for a clitic pronoun to occur, the verb must move sufficiently high in the structure. This allows us to explain both the differences between the proclitic and the enclitic paradigms and the differences between the persons that have a proclitic pronoun and those that have *pro* as the subject. We have also seen that our analysis accounts for both language-internal differences and cross-linguistic variation in northern Italian dialects, and for the distribution of clitic and weak subject pronouns in French.

No previous analysis has made use of a single explanation for all these cases. The two hypotheses on which our analysis is based — (i) that the subject clitics are true clitic pronouns which undergo the derivation typical of clitic elements: XP-movement followed by X°-movement (see §2.3), and (ii) that the presence of a subject clitic

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[65]. After having analyzed the X head(s), we are in a position to provide the full derivation of interrogative sentences containing second and third person singular and third person plural pronouns. The tentative solution that we propose is the following: the pronoun first cliticizes to the X head and then moves further to Y. The verb adjoins to X and then to the pronoun adjoined to Y, pied-piping the trace of the pronoun.

(i) $[_{YP} [t_k \text{ be:və}_i] - t_k [_{XP} t_k t_i [_{AgrSP} t_k t_i \cdots [_{VP} t_k t_i]]]$ 'drinks-he?

This proposal also accounts for the subject clitic reduplication seen in note 40. If in (i) both the trace and the head of the chain are spelled out, we get subject clitic reduplication. In (ii), we illustrate the tentative derivation of example (ib) in note 40.

(ii) $[_{YP} [la_k \text{ baɲ}_i] - la_k [_{XP} t_k t_i [_{AgrSP} t_k t_i \cdots [_{VP} t_k t_i]]]$ 'it rains-it?'

implies that verb movement has applied, otherwise *pro* occurs (see §5.1 and §5.4) — are not shared by any previous analyses (such as Rizzi 1986, Brandi and Cordin 1981, 1989, Suñer 1992, Sportiche 1999, Poletto 2000, among others).

These previous analyses take subject clitics to be the realization of inflectional heads, and the subject to be invariably *pro*. The clitic pronoun is often taken to enrich the Infl head so that it can license the null subject.[66] Notice that this hypothesis cannot explain why a pronoun appears enclitically in those persons (first person singular and plural and second person plural in (4c)) which do not require it in proclitic position. Why does Infl license a null subject in declarative sentences, but not in interrogative sentences? To account for these cases, a second hypothesis is needed, here referred to as the "two paradigm" hypothesis, that claims that in interrogative sentences, a different paradigm of clitics is used. The traditional analyses thus need two different hypotheses, one of which is very controversial (see §5.3), while our analysis needs only one which is based on the cross-linguistically well-known interaction between verb movement and argument placement (see Holmberg 1986 for objects and Cinque 1999:§5.1 for subjects).

Some of the previous analyses also assume that the presence of a subject clitic blocks the verb in a lower position with respect to the cases in which the clitic pronoun is absent. A sentence with a subject clitic is thus taken to be parallel to the following paradigms, where the position of the verb is taken to depend on whether the higher head is occupied by the complementizer or not (Rizzi 1982).

(134) a. Se Gianni *fosse* arrivato in tempo, …

   If John *had* arrived on time, …

 b *Fosse*ᵢ Gianni tᵢ arrivato in tempo, …

   *Had*ᵢ John tᵢ arrived on time, …

If subject clitics are not the realization of functional heads, but true clitic pronouns, as we suggest here, this type of parallelism looses any descriptive power. As suggested

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[66].   Poletto (1996: 280) assumes that subject *pro* is present in the clause (in specAgrP) and is licensed by the subject clitic sitting in the Agr head even in those cases where she claims that the subject clitic is thematic and has moved from the VP-internal thematic subject position. Poletto does not address the questions raised by her assumptions. If the subject clitic is thematic, the subject *pro* can only be expletive (in order to prevent a violation of theta theory). If *pro* is expletive, it should not need to be licensed by the subject clitic. Our proposal allows us not to make any such problematic assumptions.

above, the presence of a clitic pronoun rather signals that the verb has moved higher than the cases where no clitic pronouns appear.

Some of the previous analyses also consider vocalic segments to be able to license *pro* (cf. Poletto 1996 for the dialect of Basso Polesano). Since in the dialect under consideration here, the vocalic segments in (3c) are optional, it is not at all clear that the role of these vocalic segments is that of licensing *pro*. The same holds of the optional vocalic segment found in Schio (see §3.6). Furthermore, the vocalic segment which occurs in interrogative sentences (4) is not able to license a null subject. In this case, a pronoun appears enclitically even in those persons (first person singular and plural and second person plural in (4c)) which do not require it in proclitic position.[67]

Our analysis shows that the link between the distribution of *pro* and the distribution of vocalic segments is not direct, but mediated by verb movement. The vocalic segment in (3c) occurs in those persons of the paradigm in which the verb stops in declarative sentences in a functional head lower than the subject-field; this makes the presence of the weak pronoun *pro* necessary instead of a subject clitic.

6. Summary and Conclusions

6.1. The New Analysis of Subject Clitics

The analysis of subject clitics in the Donceto dialect proposed here has the following features:

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[67]. Vocalic subject clitics are also optional in Gruyére Franco-Provençal, as shown in (i).

(i)   (I) medzè dou fre ti lé dzoa. '*I* eats some cheese all the days' (S/He eats cheese every day)

The optionality of *i* in (i) is analyzed by de Crousaz and Shlonsky (2000) in terms that are compatible with the vocalic clitic being a licensor of *pro*. They suggest that when the vocalic segment is present, it licenses *pro*; when it is absent, we are dealing with an instance of topic-drop (where an empty operator in specTopicP binds a variable in subject position). This analysis cannot be extended to the Donceto dialect. It predicts, among other things, that the vowel is absent in embedded contexts, where the complementizer licenses *pro*. The prediction, correct for Gruyére Franco-Provençal, is not for Donceto, since we have seen in (38) that the vocalic segment [ə] is optional in embedded clauses as it is in main clauses.

• In the second person singular, third person singular and third person plural, the subject clitic is a true pronoun. In these persons, the language is non-pro-drop, and the subject clitic is obligatory.

• In the first person singular, first person plural, and second person plural, the preverbal vocalic segment occurring in declarative sentences is not a subject clitic. The subject is a null category (*pro*), much as in Italian. The preverbal vocalic segment is the (optional) realization of a functional head of the Infl layer, the subject-field head hosting the feature [α number] (see note 21).

• In all persons of the paradigm, the enclitic pronoun found in interrogative sentences is a true subject clitic pronoun.

By claiming that in the second and third person singular and third person plural, the preverbal clitic is a a true subject clitic and is the same subject clitic found in postverbal position in questions, our analysis correctly predicts the following:

• The (true) subject clitic is always mandatory (either in proclitic or in enclitic position).

• "Doubling" is excluded.

• The output form (proclitic or enclitic) is directly related to its input form, with the minor differences being due to phonological considerations.

By claiming that in the first person singular and plural and in the second plural, the vocalic segment in proclitic position and the pronoun in enclitic position are two different syntactic entities (namely, the default realization of a functional head and a subject clitic pronoun, respectively), our analysis correctly predicts the following:

• The syntactic distribution of proclitic and enclitic segments is different (optional or mandatory).

• They can cooccur in interrogative sentences giving rise to apparent "doubling".

• Their phonological shape is such that no phonological constraints necessarily relate them.

The proclitic and enclitic pronouns have the lexical representations given in (135). The differences between the proclitic and the enclitic paradigm and the microvariation observed have been accounted for via verb movement.

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(135) a. *preverbal subjects (declarative sentences)*

        pro   *pro*

        t   *pro*

        l   i

   b. *enclitic subjects (interrogative sentences)*

        i   i

        t   v

        l   i

We have proposed the following serialization of functional heads in the subject-field.

(136)   [$_{ZP}$ ə [$_{YP}$ [$_{X''P}$ $^{/i/}$ [$_{X'P}$ $^{/l/}$ [$_{XP}$ $^{/t/}$ [$_{AgrSP}$ *pro*]]]]]]

6.2.   The New Analysis of Preverbal Vocalic Segments

Our non-'unified' analysis of the data in (3) and (4) is based on the fact that there is clear evidence that the preverbal schwa in (3a), (3c) and (4) is not a subject clitic. We have suggested a new analysis in which there are three different types of schwa: the vowel in (3a) is epenthetic, the vowel in (3c) is a subject-field vowel, and the vowel in (4a) and (4b) is an interrogative vowel (in (4c) it is either an interrogative vowel or a subject-agreement vowel or both).

(137)   new analysis (compare with (5) and (6))

    a. ə t be:v   'you:sg drink'

       ə l be:və   'he drinks'

       |

       epenthetic vowel

    b (ə) be:v   'I drink'

       (ə) bu'vum   'we drink'

       (ə) bu'vi   'you:pl drink'

        |

       subject-field vowel

c. (ə) be:v-ət   'do you (sg) drink?'
    (ə) be:və-l   'does he drink?'
    (ə) be:vən-jə   'are they drinking?'
      |
interrogative vowel

d. (ə) be:v-jə   'am I drinking?'
    (ə) bu'vum-jə   'are we drinking?'
    (ə) bu'vi:-v   'are you:pl drinking?'
      |
interrogative vowel or subject-field vowel

The difficulty in distinguishing epenthetic vowels (3a) from other syntactic entities ((3c) and (4)) is due to the fact that their phonetic quality is the same.

While we provide independent analyses for the vowels in (3a), (3c) and (4), we nonetheless propose that the identity of the vowel used in these three contexts is not a coincidence. They are all cases of the default realization of an empty position, be it a phonological nucleus (i. e., 'epenthesis') as in (137a), or a syntactic (functional) head (i. e., what we call 'syntactic epenthesis'), as in (137b)-(137d). The syntactic head is a head of the Infl layer in the case of the subject-field vowel in (137b) and a head of the Comp layer in the case of the interrogative vowel in (137c) (or either in (137d)).

This analysis has proven to be crucial in developing a new analysis of subject clitics in interrogative sentences, thereby solving the long-standing problem of the different distribution and phonological form of proclitic and enclitic subject clitics.

In conclusion, we hope that the optional presence of vocalic segments will be given more attention in future research and possibly analyzed along the lines suggested here. We also hope to have shown that a detailed analysis of both the phonological and the syntactic properties of sentences may help to unravel intricacies that would remain mysterious under purely phonological or purely syntactic accounts.

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Long Distance Anaphors and the Syntactic Representation of the Speaker[*]

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1. Introduction

In this paper I'll mostly consider the distribution of the Italian third person singular/plural possessive *proprio* and of the Chinese reflexive *ziji*.[1]
The main idea I'll develop in this work is that the morphosyntactic characteristics determining at the interface level the temporal location of events also allow the identification of the antecedent of long distance anaphors. That is, temporal anchoring, or sequence of tense – henceforth, SOT – and the binding of long distance anaphors – henceforth, LDAs –are two facets of the same grammatical properties of the clause.

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[1]. *Proprio* is a possessive item roughly meaning *own*. Since however the parallelism with *own* is only partial, I'll adopt a more neutral gloss and translate it as *self's*. For *ziji* I'll use the glosses given by the authors of the examples. On a comparison between *proprio* and *own*, see Safir (2003c). See also Higginbotham (1985).

This proposal is not only motivated by the well-known interaction between verbal forms – for instance subjunctive/infinitive vs. indicative – and the distributional properties of LDAs, but also by the important role played by *subjects* in both domains.

The reason for the choice of languages is that they are located at the opposite extremes with respect to morphosyntactic properties and Sequence of Tense in particular. Italian in fact has a clear main / subordinate clause distinction with respect to temporal and modal dependencies, exploiting the indicative/ subjunctive paradigm. Chinese, on the contrary, lacks any morphological temporal and modal marking, relying almost exclusively on aspectual morphemes. This peculiarity obviously represents the main challenge for a SOT-based theory of LDAs.

This paper is organized as follows. In the first section I introduce the problems connected with subject orientation and provide a brief review of the previous approaches, trying to outline advantages and disadvantages of the various proposals. I'll also discuss some additional empirical facts, which should be taken into account by any adequate theory of LDAs. In the second section, I sketch the hypothesis, providing the necessary background and discussing the evidence which is motivating it. In the next one I work it out, showing what the predictions are in the various cases. In the fourth, I compare the Italian data with the Chinese ones. I try to show that the two languages, though very different from each other as far as their morphosyntactic properties are concerned, can be accounted for by means of the same theoretical proposal, without resorting to *ad hoc* parameterization hypotheses. Finally, in the fifth, I speculate on the nature of LD binding and logophoricity, providing suggestions for future research. I'll show that this account reduces many phenomena, often attributed to logophoric conditions – or discourse grammar – to sentence grammar.

1. On the subject orientation and other relevant facts

1.1. The subject as a LDA antecedent

What counts as a *long distance anaphor*? I would like to remain somewhat vague with respect to a precise definition of LDAs. In this work I will only provide the minimal machinery to ensure that *proprio* and *ziji* are properly classified, but I'll avoid the issue

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in itself and will not consider the questions related to the typological classification of anaphors.[2]

An anaphor is widely assumed to be an inherently *dependent* form – i.e., a form that cannot be used for deixis.[3] Since Chomsky (1981), these elements have been taken to obey principle A of the Binding Theory, which I report as follows, ignoring many complex and intriguing questions related to the definitions:[4]

(1)   Principle A of the BT:
       a) An anaphor is bound in domain D
       b) A Domain D is the minimal domain of an accessible SUBJECT

However, many items, though inherently dependent, do not obey principle A of the BT in that they can take an antecedent outside the local domain. For this reason, they are referred to in the literature as *long distance* anaphors.[5]

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[2]   For a discussion about the syntactic nature of the notions of *pronoun* and *anaphor*, see Reuland (2001a). See also Safir (1996, 2003a, 2003b, 2003c) and Anagnostopoulou & Everaert (1999). I refer the reader to them and references cited there. See also the introduction to the collection of essays on long distance reflexives, by Cole, Hermon & Huang (2001) about the state of the art in the topic.

[3]   An anaphor can never by used for accompanying an ostensive gesture, even when the individual picked out in that way is a familiar one. One could exclaim, pointing to a familiar individual, "Him!", but not "Himself!". See Safir (2003c).

[4]   Some questions concern the exact definitions of Domain D, and what counts as an accessible SUBJECT, and what a SUBJECT is, as opposed to a (lower case) "subject". The topic has only been sporadically addressed in the last ten years. It seems to me that the general feeling is that such notions should be derived from more principled ones and not just stated as primitives, in the spirit of Chomsky's (1995) minimalist view. See Reinhart & Reuland (1993) and Williams (1989, 1994) for proposals aiming at a reduction of clausal binding to co-argumentality and, in general, to argument structure.

[5]   Some scholars derive the local and non-local nature of anaphors from their morphological properties, in terms of feature specification, with their binding options. See for instance Pica (1987) and Burzio (1991). See also section 3 below.

Neither the Italian possessive *proprio*, nor the Chinese *ziji* can be used for deixis.[6] Therefore, they both pass the test for anaphoricity. Consider for instance the following example in Italian:

(2)   *Questo è il proprio libro! (indicando Gianni)
       This is self's book! (pointing to Gianni)

However, they can appear in contexts which violate principle A of the BT, because they can select their antecedent outside domain D. Consider the following sentences, which show a contrast between the possessive anaphor *proprio* and the clause bound, morphologically complex anaphor *se stesso* (himself):[7]

(3)   Quel dittatore$_i$ pensava che i libri di storia avrebbero parlato a lungo delle proprie$_i$ gesta.
       That dictator thought that the books of history would talk for a long time about self's deeds

(4)   *Quel dittatore$_i$ pensava che i libri di storia avrebbero lodato a lungo se stesso$_i$
       That dictator thought that the books of history would have praised for a long time himself

Let me turn now to subject orientation. As I said above, it is a well-known fact that LDAs are subject oriented, in that in general they cannot be dependent upon items playing other grammatical functions in the sentence. Sentence (5) illustrates this point:

(5)   Gianni$_i$ ha informato Maria$_j$ che la propria$_{i/*j}$ casa era in fiamme.
       Gianni informed Maria that self's house was on flame

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[6].   Chinese *ziji* can be used as an indexical to refer to the speaker. I'll discuss the issue in section 4 below.

[7].   Coindexation is to be understood as a mere illustrative device and the theory I'm going to propose does not need any device of this sort. See Reuland (2001a) for a discussion of the notion of coindexing in the minimalist perspective.

The only possible antecedent for the anaphor is the subject, as opposed to other arguments, such as the object. Notice that both subject and object c-command the anaphor.

However, LDAs are not *always* subject oriented, in that there are some cases in which they *do not* exhibit subject orientation, as for instance with psych-verbs. This point will turn out to be a relevant observation, which I will consider later.

Subject orientation is not a "natural" property of binding relations, given that in other binding cases it does not arise. Clause bound anaphors are not subject oriented, neither in Italian nor in English:

(6)   Una lunga terapia psicoanalitica ha restituito Maria a se stessa.

(7)   A long psychoanalytic therapy brought back Maria to herself.

Analogously, bound pronouns are not subject oriented, neither in Italian nor in English:[8]

(8)   Ho informato ogni studente$_i$ che il suo$_i$ compito era stato corretto.

(9)   I informed *every student* that *his* homework had been corrected.

In sentences (8) and (9) the pronoun is bound by the quantified nominal *ogni studente* (every student) in object position. Consider further that, when clause bound, *proprio* is not necessarily coindexed with a subject:

(10)   Ho presentato gli studenti$_i$ ai propri$_i$ professori
       I introduced the students to self's professors

Moreover, it has been observed that even in languages like English, where it is usually assumed that all anaphors are clause bound, it can happen that under special conditions an otherwise clause bound anaphor finds its antecedent outside the sentence, escaping Principle A of the BT. I'll call this phenomenon *LD binding residue*. Interestingly,

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[8].   I'll address in section 2.2 the question of the difference between anaphors and variables, both distributionally and interpretively.

residual LDAs also exhibit subject orientation. This can be observed with the reciprocal *each othe*r, as illustrated by the following examples:[9]

(11) The boys told the girls that each other's pictures were on sale.

This sentence cannot mean that the boys told one of the girls that the picture of the other was on sale – i.e., the object is not available as an antecedent. On the contrary, such a meaning is available, as far *the boys* are concerned. When clause bound, *each other* is not subject oriented:

(12) The boys introduced the girls to each other.

This sentence can mean that the boys introduced each of the girls to the others. Notice that in the example (11), the reciprocal is embedded inside a subject. One might propose, along the lines of Giorgi (1983), that the case in question does not fall under principle A of the BT. Depending upon the notion of *accessible SUBJECT*, in fact, in can be argued that the identification of the domain D in these cases is impossible, or, better to say, vacuous. As a matter of fact, an anaphor in subject position – or inside a subject – behaves like a LD one. [10]

Putting aside the theoretical questions, for the moment, it can be concluded that subject orientation is not a lexical property – i.e. a property of certain lexical items *per se*. On the contrary, it turns out to be a property of reflexive pronouns, and of English reciprocals, in certain contexts, *when certain special conditions are met*. The question I want to address here is the following: what are these special conditions? Or, in other words: which are the syntactic and semantic properties of subject-oriented LDAs?

Let me also briefly remark that approaches simply aiming at enlarging the domain of application of principle A of the Binding Theory cannot explain subject orientation, unless by means of an *ad hoc* constraint, explicitly excluding non-subjects from the range of possible antecedents. To simply enlarge the binding domain to include the

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[9]. I'm ignoring here some important problems related to the specific way *each other* is interpreted. On this issue, see Higginbotham (1980) and Heim, Lasnik & May (1991a; 1991b).

[10]. See section 4 for further discussion. On Chinese *ziji* in subject position, see Huang & Liu (2001, section 4.2).

superordinate clause(s), in fact, would also necessarily include objects, which therefore would be available for antecedenthood.[11]

Consequently, the correct question should not only concern the nature and the properties of the binding domain, but also the peculiar choice of antecedents.

1.2.   Previous analyses

1.2.1.   LDAs move

One of the most influential proposals is the one originally discussed in Cole, Hermon & Sung (1990) – and subsequently developed in various papers (Cole & Sung, 1994; Cole & Wang, 1996; Cole & Hermon, 1998; Cole, Hermon & Lee, 2001). In their works, the authors accounted for subject orientation by means of covert movement. Several versions of this proposal have been since then discussed by other scholars, each with its peculiar advantages or disadvantages. In the brief review that follows, I'll abstract away from the details and consider only the major points that might be taken to characterize the movement theory in general.[12]

Starting from an observation by Pica (1987; but see also Burzio 1991, who elaborates on previous unpublished material, dated 1986), LDAs are supposed to move out of the VP at LF. The landing site is Inflection (or T, or variants thereof). They have to move because they are somehow *defective* from the point of view of their feature specification. It is assumed that, in order to be interpreted, these anaphors must end up in a local configuration with an item providing them with the necessary features. Due to the syntactic location of the landing site, only the subject qualifies as a possible antecedent, given that it is the only nominal phrase c-commanding the anaphor. This way subject orientation is accounted for.

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[11].   See for instance Manzini and Wexler (1987) for a proposal in this direction.

[12].   Notice that the theoretical proposal developed by Huang & Liu (2001) is ultimately based on covert movement, but it also takes into account important semantic observations, therefore we are not going to consider it here. Cole, Hermon & Lee (2001) in their analysis of two different Chinese dialects adopt a broader view, which they call *logophoric*, in order to account for some of the differences observed between the two languages.

The shortcoming of this proposal is that LDAs are predicted to be *always and only* subject oriented. All exceptions must be considered as spurious cases, to be accounted for by means of other – more or less *ad hoc* – hypotheses.

Chinese *ziji* represents a prototypical case of lack of feature specification. *Ziji* in fact is not endowed with any feature at all, neither number, nor gender, nor person. As a consequence, it must move at LF.

Furthermore, following Pica (1987), it is also assumed that anaphors can move only if they are heads, given that the relevant movement is a head-to-head one and the landing site is a head position (or adjoined to a head position). Therefore, a bi-morphemic anaphor like *himself* cannot move, because it would not qualify as a head. Analogously, the Italian anaphor *se stesso* and the Chinese complex anaphor *ta-ziji* cannot move. It follows that the anaphors that cannot move must be clause bound, whereas the other ones are subject oriented.

This theory gave rise to a very interesting debate. One question that arises in connection with these proposals is what counts as *enough* as far as the feature specification is concerned. In other words, in what cases the feature endowment of an anaphor can be considered to be a defective one, so to force movement at LF? The problem is constituted by the fact that the feature properties differ across languages, and even in the same language anaphoric items might differ from each other. As an exemplification, *proprio* and *ta-ziji* are both specified only for person. However *proprio* is long distance, whereas *ta-ziji* is local.

The fact that LDAs are not sensitive to island configurations – whereas usually covert movement is – has been noted and discussed in the literature, as well as the observation that there is no overt movement corresponding to the covert LF movement of LDAs. These problems led to various adjustments of the movement proposal, and I'll not comment on these points any further.[13]

An interesting question, which is certainly problematic for by the movement hypothesis, is constituted by the so-called *blocking effect* in Chinese.

In Chinese an intervening first or second person prevents the anaphor from being bound in a clause superordinate to the one containing the first or second person pronoun. The explanation provided by the movement hypothesis is that LF movement is cyclic and the anaphoric item *must* inherit the features it meets on its way up to the antecedent.

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[13]. Several solutions to this question have been proposed in the literature. See for instance Huang and Tang (1991) and Safir (2003a).

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According to this proposal, the features are picked up by the anaphor as soon as it enters the relevant configuration with the feature-endowed lexical item. As a consequence, the first potential antecedent assigns the relevant features to the anaphor and all the potential antecedents must agree, otherwise a feature mismatch would arise and the anaphor could not proceed any further.[14]

In order to transmit its features to the anaphor, the blocking item must be a potential antecedent. Moreover, *any* potential antecedent will endow the anaphor with features and consequently prevent it from referring to something differently marked.

As pointed out by Huang and Liu (2001), however, in Chinese the blocking effect is asymmetrical and even non-potential binders may act as blockers. Both facts constitute a problem for the movement hypothesis. Consider the following example:[15]

(13) Zhangsan$_i$ danxin wo/ni$_j$ hui piping ziji$_{*i/j}$

    Zhangsan is worried that I/you might criticize myself/yourself/*him

    (Huang & Liu 2001,ex.11a)

Intervening first or second person pronouns in a potential antecedent position prevent the anaphor from referring to the higher third person Noun Phrase. However, first and second person block the anaphor, but not a third person: [16]

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[14]. Another important question arising in this connection is constituted by the trigger for further movements of the anaphor, after the first cycle. If LDA movement in fact, is motivated by the necessity of inheriting features for the interpretive process, it is unclear why, once the features have been assigned, the anaphor can move further up.

[15]. For an analysis, see Huang (1984), Xu et al. (1994) and Huang & Liu (2001). See also the discussion of English and Chinese examples in Pollard & Sag (1992).

[16]. Huang & Liu (2001) notice that some sentences with an intervening third person antecedent might be controversial. Namely, some speakers might find it hard to *pass* over a third person intervening subject. Their own judgment, however, is that the sentences with an intervening third person are fully acceptable. Here for consistency, I'll assume their range of data. Notice however, that some of the problems with these judgements might be due to the complex effects arising in Chinese with plural antecedents (see Huang & Liu 2001, sect. 3.2.4), if plurals are used in the relevant contexts. Furthermore, if the third person is deictically identified can also act as a blocker, as I'll better discuss in a while. On the effects caused by an intervening third person, see also Tang (1989, fn.11 and fn.15).

(14) Wo$_i$ danxin Zhangsan$_j$ hui piping ziji$_{i/j}$
      I am worried that Zhangsan will criticize me/himself

<div align="right">(Huang & Liu 2001, ex.11b)</div>

The grammaticality of example (14) illustrates the existence of an asymmetry in the blocking effect. Consider now the following example:

(15) Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$
      Zhangsan told me that Lisi hated self   (Huang & Liu 2001, ex.8a)

LD *ziji* may be blocked by non-subjects that are not potential antecedents (Huang & Liu p. 161). To deal with these cases of LD binding, Cole, Hermon & Lee (2001) propose that they do not belong to sentence grammar, but must be accounted for in terms of logophoricity.

Another important problem for the movement approach is the systematic asymmetry with so-called psych-verbs (cf. Giorgi, 1983). Consider for instance the following cases:

(16) La propria moglie preoccupa molto Gianni.
      Self's wife worries Gianni a lot

(17) *La propria moglie ha ucciso Gianni.
      Self's wife murdered Gianni

Examples (16) and (17) show an asymmetry between regular transitive verbs, like *kill*, and psych-verbs such as *worry*. In the latter case, the object is available as an antecedent, but not in the former. The question, therefore, is in what ways a transitive verb like *kill* is different from an – apparently – transitive verb such as *worry*.

The problem concerning the structure of the VP projected by these verbs has been variously addressed in the literature (Belletti & Rizzi, 1988; Pesetsky, 1995), but no general theory of binding has incorporated these data in a systematic account. In general, it is claimed that the binding of anaphors in these cases is logophoric – i.e., ruled by principles that lie outside the scope of sentence grammar. However, in section 4 below, I'll show that there is no need to set these cases aside.

Consider now the following cases of LD binding where the antecedent is *not* a subject, with the psych-verb *worry*:

(18) Che la propria$_i$ figlia sia andata in campeggio da sola preoccupa molto Gianni$_i$

That self's daughter is camping by herself worries Gianni a lot

(19) Che tutti ambiscano al proprio$_i$ incarico preoccupa molto il primo ministro$_i$

That everybody aspires to self's office worries the Prime Minister a lot

In sentence (18) the LDA is embedded in the subject position of a sentential clause; in example (19) the LDA appears in the object position of the subject clause. In both cases, the experiencer is available as an antecedent. However, a LDA embedded inside the experiencer cannot refer back to the subject:

(20) *Il primo ministro$_i$ preoccupa molto coloro che ambiscono al proprio$_i$ incarico.

The Prime Minister worries a lot those who whish self's office

(21) Coloro che ambiscono al proprio$_i$ incarico preoccupano molto il primo ministro$_i$

Those who wish self's office worry the Prime Minister a lot

The example in (20) contrasts minimally with (21). The whole pattern is difficult to explain on the basis of movement of the anaphor to I (or to equivalent positions). The sentences in (18), (19) and (21), in fact, could not be derived in this way, since movement of the anaphor to I would not locate it any closer to its antecedent. Conversely, (20) is predicted by such a theory to be good. The same holds for the contrast between (16) and (17): only a psych-verb allows *backward* binding. Notice that in this case binding is not strictly speaking long-distance, because the noun phrase containing *proprio* is not embedded in a clause different from the one containing the antecedent. The fact that the example in (20) is unacceptable, is a strong argument in favor of the idea that psych-verb biding should be subsumed under a theory of LD binding. Let's suppose, in fact, pursuing in a way the line of thought put forward by Cole, Hermon & Lee (2001), that in certain cases a purely syntactic theory ought to be supplemented by logophoric considerations.[17] The claim that other considerations, based on theories of logophoric anaphora, could account for the grammaticality of (18)

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[17]. Notice that Cole, Hermon & Lee (2001) propose this solution for some other cases and *not* for the experiencer problem, for which they might have other solutions of which I'm not aware of.

and (19), in fact, could still not explain the impossibility of (20), which would be predicted grammatical by the movement account.

Another important consideration is constituted by *subcommand* cases In Chinese a specifier of an inanimate potential antecedent can act as the actual antecedent (cf. Huang &Liu 2001, for a discussion of Chinese examples). The idea proposed by the movement theory is that in a language with no visible agreement features, only the features of an animate subject – or, in these cases, of a *sub*-subject – can be represented in I, or AGR. However, as I'll better illustrate below in section 4, this property can be observed also in a language like Italian, which certainly does not lack of visible features. In particular, sub-command is possible when the antecedent is an experiencer, not in agreement with the verb – namely, a non-subject one. Consider the following examples:[18]

(22) La propria$_t$ salute turba i sogni di Gianni$_t$
      Self's health disturbs Gianni's dream

(23) Che la propria$_i$ figlia sia andata in campeggio da sola turba i sogni di Gianni$_i$
      That self's daughter went to camp by herself, disturbs Gianni' dreams a lot

It would be desirable for this piece of evidence as well to follow from a theory of LD binding taking into account the distribution of anaphors in the contexts created by the psych-verbs.[19]

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[18]. In Italian, sub-command is otherwise not possible, neither with clause bound *proprio*, nor with the LD one:

(i) I sogni di Gianni$_i$ provocarono il suo/ *proprio$_i$ risveglio improvviso.
     Gianni's dreams caused his/self's sudden awakening

(ii) La biografia di quello scienziato$_i$ rivelò al pubblico che le sue/ *proprie$_i$ scoperte erano dei plagi.
      The biography of that scientist revealed to the public that his/self's discoveries were imitations

[19]. Huang & Liu (2001) propose that the sub-command cases pertain only to syntactic binding and not to the logophoric one, which in their terminology refers to LD binding. In what follows I'll argue for the opposite view – namely, that sub-command pertains to a theory of LDAs. See section 4 for extensive discussion.

1.2.2. LDAs are logophors

The second important theoretical proposal to account for subject orientation is the so-called logophoric theory. Sells' (1987) idea is that the subject, but not the object, plays an important function in the discourse. On the basis of the discourse representation proposed by Kamp (1984), Sells suggests three ways in which a certain item can be prominent with respect to the other ones: it can be a *source*, a *self*, or a *pivot*. A LDA is ruled by logophoric principles and is therefore subject oriented, since the grammatical subject usually coincides with the logophoric prominent role in the sentence. The proposal I'm going to sketch below owes much to logophoric theories. However, instead of placing the burden of the process on discourse grammar, externally to sentence grammar, I'll build into sentence grammar some principles usually attributed to discourse.[20]

The logophor theory has been discussed and adopted with various provisos by many authors. I'll summarize here the discussion provided by Cole Hermon & Lee (2001). They claim that if stated in a simplistic way this theory does not make the correct predictions. In several cases, in fact, the antecedent is not the element bearing the prominent role in the discourse, but on the contrary it appears to be a subject devoid of any particular prominence in the context. Cole, Hermon & Lee (2001, exx. (3) and (4)), discuss the following cases:

(24) Zhangsan$_i$ wangji le Lisi$_j$ hen taoyan ziji$_{i/j}$ de gege
Zhangsan$_i$ forget perf Lisi$_j$ very hate self's brother
Zhangsan$_i$ forgot that Lisi$_j$ hates his$_i$/his own$_j$ brother

(25) Zhangsan$_i$ bu xiao de Lis$_j$ hen taoyan ziji$_{i/j}$
Zhangsan$_i$ not aware Lisi$_j$ very hate self
Zhangsan$_i$ was not aware that Lisi$_j$ hates him$_{i/j}$

They argue that the matrix subject qualifies as an antecedent, without being either a Source, or a Self, in Sells' (1987) sense. There is also a discussion of similar points in

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[20]. The same move has been proposed by several other authors for other questions, such as the temporal interpretation (Higginbotham 1995, Giorgi & Pianesi 2001) and the interpretation of pronouns (Schlenker, 2003) and PRO (Higginbotham 2003).

Pollard and Xue (2001). They claim as well that the *pure* logophoric approach cannot successfully account for the variety of phenomena observed in LD binding.

Finally Reinhart & Reuland (1991) introduced the notion of logophoricity in connection with similar binding phenomena, even if under a rather different perspective. Their view is that all the binding facts which cannot follow from a theory of binding based on co-argumentality and *chains*, should be accounted for by a theory of logophoricity.

I won't address the issue any further. I'll try to show in this paper that at least some of the occurrences usually explained by means of logophoricity can be traced back to other notions, having to do with sentence grammar rather than discourse grammar. One of the main goals of this work is to illustrate how contextual elements have a morphosyntactic representation in sentential grammar.[21]

1.2.3.   LDAs are *de se* anaphors

The third proposal is based on interpretive properties. Chierchia (1989) for Italian, Pan (1998, 2001) and Huang & Liu (2001) for Chinese, resort to the notion of *de se interpretation*, based on the discussion by Castañeda (1966).[22] Let's consider the well-known examples in (26):

(26)   John thinks that he is a war hero.

The speaker might mean that John has a *de re* belief about a certain person which is John himself – namely, that that person is a war hero.

However, there are two distinct thoughts that might be in John's mind, both of which can be appropriately reported by means of (26). John might be amnesiac and therefore, when reading about himself, he might say, "Oh, this guy is a war hero!" without realizing that the hero is him himself. The speaker might then report what he said by

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[21].   Hellan (1991) proposes a bipartition between LD anaphors and locally bound ones. He argues that LDAs obey a *containment* condition, whereas the locally bound ones obey a *connectedness* condition. LDAs are related to their antecedent by means of predication or logophoricity. Locally bound anaphors are basically bound by a co-argument. Hellan's distinction is descriptively very similar to the one I'm arguing for in this work.

[22].   See also Giorgi (2004a) for a detailed discussion of the interpretive properties of LDAs.

means of sentence (26). Notice that the speaker is aware of the identity of the war hero, and therefore *from the speaker's point of view* coreference between the pronoun and the matrix subject is perfectly appropriate. In another scenario, John might simply have a conscious belief about himself: "I'm a war hero", which the speaker might report by means of (26). This one is the *de se* – or first personal – reading.

The ambiguity disappears if the sentence contains an emphatic pronoun, or a PRO structure:

(27)   John thinks that he himself is a war hero.

(28)   John expects himself to win.

(29)   John expects to win.

In these cases, the only appropriate reading is the one in which John is perfectly aware of his own identity.[23] Chierchia proposes that *proprio* (self's) exhibits the same property. He considers in fact Kaplan's (1979- reported in the references as Kaplan 1989) example:

(30)   John believes that his pants are on fire

The relevant meaning is the one in which the pronoun refers to John. This sentence can be first-personal. However, it can also be appropriate in a situation in which John is not aware of the fact that the person whose pants are on fire is he himself. The Italian equivalent containing a pronoun has the same property:

(31)   Gianni$_i$ pensa che i suoi$_i$ pantaloni siano in fiamme.
        Gianni thinks that his pants are on fire

Conversely, the sentence containing the LDA is not ambiguous:

(32)   Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme.
        Gianni thinks that self's pants are on fire

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[23].   See the extensive discussion provided by Higginbotham (2003).

The example (32) is only first-personal.

Following this line of thought it might be argued that LDAs are subject oriented because only the subject can give rise to the appropriate first personal reading. Objects are excluded because they are not compatible with the *de se* requirement of the anaphor. Consider the following example:

(33) Gianni$_i$ ha informato Maria$_j$ che i propri$_{i/*j}$ pantaloni sono in fiamme.
       Gianni informed Maria that self's pants are on fire

In (33) the only one which can be said to have a first personal belief is *Gianni*, and not *Maria*.

However, in order to obtain the correct distribution, one has to claim that the anaphor has in itself, as a lexical property, the requirement of being interpreted *de se*. Furthermore, the same should hold of the emphatic pronoun and PRO.

This account faces the following problems. An emphatic pronoun can refer also to an object, in which case no first personal reading obtains:

(34) I informed Bill that he himself was selected by the committee.

The same holds of object control:

(35) John ordered Mary$_i$ PRO$_i$ to leave.

In neither case is the item in question ruled out. Simply, the interpretation assigned to the emphatic pronoun and to PRO is not a first-personal one. Furthermore, when clause bound, *proprio* is not subject oriented:

(36) Ho convinto Maria$_i$ del proprio$_i$ valore.
       I convinced Maria of self's value

Therefore, it is not clear why, given the existence of a non-*de se proprio*, the LDA in (32) cannot be appropriate in a non-*de se* scenario. I would like to explore the view according to which the fact that *proprio* selects the *de se* reading is not the *cause* of its subject orientation, but an *effect* due to other properties. On the other hand, the peculiar reading of these items in these contexts has to be addressed by any theory dealing with LD binding.

There is finally another piece of evidence that I would like to discuss in this connection. Subject orientation is usually a sharp judgement, on which speakers usually agree – namely, coreference with an object, as in (33), is considered ungrammatical by all speakers. On the contrary, for some speakers – even if not for everybody – there is no contrast between the sentences (37) and (38):

(37)   La sventurata fanciulla riteneva che il proprio fidanzato fosse un gentiluomo.
       The unhappy young woman believed that self's sweetheart was a gentleman

(38)   La sventurata fanciulla riteneva che il proprio assassino fosse un gentiluomo.
       The unhappy young woman believed that self's murderer was a gentleman

Only (37) can be truly first personal. Some speakers therefore do behave accordingly to Chierchia's prediction, rejecting (38), but other ones, myself included, do not. Still, sentences (37) and (38) both sharply contrast, for all speakers, with (39):

(39) *Ho informato la sventurata fanciulla$_i$ che il proprio$_i$ fidanzato non era un gentiluomo.
       I informed the unhappy young woman that self's sweetheart was not a gentleman

Even the speakers who tend to reject (38) find (39) much worse.

The generalization, therefore, could be stated as follows: *when possible*, the LDA *proprio* is unambiguously interpreted first-personally. For some speaker, if it is not possible to assign it the first-personal interpretation, the sentence becomes marginal, for other ones, it is still acceptable.[24]

If this is the case, then it is necessary to look elsewhere to explain subject orientation.[25]

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[24].   See Giorgi (2004a) for an analysis of these cases together with the near-reflexive readings.

[25].   Huang & Liu (2001) and Cole Hermon & Lee (2001) discuss examples like (38) in Chinese. Huang & Liu consider them marginal – not *totally* ungrammatical – whereas Cole, Hermon & Lee give them as fully acceptable.

1.3. Two properties of LADs

1.3.1. The *Verbal* blocking effect

LDAs show sensitivity to the distinction subjunctive/infinitive vs. indicative. In languages having a mood distinction, the binding domain of a LDA is usually defined by an indicative mood, whereas a subjunctive/infinitive can be crossed over. I'll call this property 'verbal' blocking effect, to distinguish it from the blocking effect of Chinese, which is mostly due to the presence of nominal elements.[26]

As in the case of subject orientation, this one is not a property of binding *per se*. Clause bound anaphors do not exhibit this property – namely, they can be found indifferently in subjunctive and indicative clauses, without giving raise to any special effect. Analogously, bound pronouns do not share this characteristic: the mood distinction does not have any effect on their distribution.

(40) *Quel dittatore$_i$ ha detto che i notiziari televisivi hanno parlato a lungo delle proprie$_i$ gesta.
That dictator said that the TV news programs talked(Ind) for a long time about self's deeds

(41) *Quel dittatore$_i$ ha detto che i notiziari televisivi parleranno a lungo delle proprie$_i$ gesta.
That dictator said that the TV news programs will(ind) talk a lot about self's deeds

(42) Quel dittatore$_i$ spera che i notiziari televisivi parlino a lungo delle proprie$_i$ gesta.
That dictator hopes that TV news programs will talk (SUBJ) for a long time about self's deed

(43) Quel dittatore$_i$ ha detto che il primo ministro$_j$ era convinto che i notiziari televisi avessero parlato a lungo delle proprie$_{j/*i}$ gesta.
That dictator said that the Prime Minister was(IND) convinced that the TV news program had(SUBJ) talked a lot about self's deeds

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[26].   This question has been extensively investigated for Icelandic, see, among the others, Maling (1984; 1990). Reuland and Sigurjónsdóttir (1997) however argue that infinitival sentences are crucially different from subjunctive ones.

Sentences (40) - (43) show that the main verb of the embedded clause must be a subjunctive, and that an indicative prevents the anaphor from looking any further. This fact could be captured by the movement proposal, by claiming that subjunctive/indicative is a condition to be met in order for a LDA to move (see however, Progovach 1992). It is less clear how the frameworks inspired to a logophoric theory and to a *de se* approach could capture it.

Notice however that in Italian there is also a mild 'nominal' blocking effect:

(44) Gianni$_i$ pensa che tutti siano innamorati della propria$_i$ moglie.
      Gianni believes that everybody is in love with self's wife

(45) Gianni$_i$ crede che Mario sia innamorato della propria$_i$ moglie.
      Gianni believes that Mario is in love with self's wife

(46) ?*Gianni$_i$ crede che tu sia innamorato della propria$_i$ moglie.
      Gianni believes that you are in love with self's wife

(47) ?*Gianni$_i$ crede che io sia innamorato della propria$_i$ moglie.
      Gianni believes that I am in love with self's wife

The sentences with a plural or singular third person intervening nominal – cf. exx. (44) and (45) – contrast with the ones with an intervening first or second person pronoun – cf. exx. (46) and (47).

As briefly discussed above, the presence of the (strong) blocking effect in Chinese is usually considered due to its lack of verbal agreement. For instance, Cole & Sung, (1994) and Cole & Wang (1996), *inter alia*, propose that there is a typological correlation between the lack of agreement and the blocking effect. According to this proposals, the blocking effect should exist only in Chinese-like languages, whereas it should be absent in Italian-like ones.

An adequate theory of LD binding should therefore both explain what's the nature of the blocking effect –verbal and nominal – and why the nominal one is less strong, though existing, in Italian-like languages.

1.3.2. LDAs in adverbial clauses

Another observation concerns the peculiar distribution of anaphors in adverbial clauses. This effect has been observed in many languages with LDAs and was described both for Italian and for Icelandic. Consider for instance the following example:

(48) Il primo ministro$_i$ sperava che il dittatore$_j$ partisse prima che i rivoluzionari sequestrassero il proprio$_{i/*j}$ patrimonio.

The Prime Minister hoped that the dictator left before the revolutionaries sequestered self's patrimony

In this sentence, the anaphor has to skip the first available subject, and can refer only to the subject of the higher clause. Why is that subject unavailable as an a antecedent? The question is an interesting one, because the structural syntactic conditions for antecedenthood − i.e., c-command − seem to be met by both nominals, but only one qualifies as an antecedent. [27]

2. The hypothesis

Let me summarize the main points I'll develop in this section. I'll argue that the properties of LD binding can be accounted for by resorting to the same machinery operating with temporal anchoring. In particular I'll adopt Giorgi and Pianesi's (2001, 2003a, 2003b) theory of SOT, which I'll briefly outline below. I'll show that the verbal − Italian-like − and nominal − Chinese-like − blocking effects with LDAs arise when the speaker's coordinate is syntactically represented in the clause. The presence of the speaker's coordinate is also taken by Giorgi and Pianesi to give rise to the Double Access Reading effect and I'll argue that the same syntactic mechanism is responsible

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[27]. A very similar set of facts holds for Icelandic. See Maling (1990), Tráinsson (1990), Sigurðsson (1990) and Tráinsson (1991). According to these scholars, the same set of properties characterizing LDAs in Italian can be taken to characterize the Icelandic ones, abstracting from the differences between the languages. I am not going to discuss Icelandic as well, but it seems to me that what I'll propose in this work can be extended to the Icelandic cases as well.

for both sets of phenomena. This way, I'll reduce LD binding to independently motivated syntactic devices.

Why is LD binding reducible to SOT? I'll argue that this is due to the peculiar nature of LDAs. I'll propose that a LDA is the spell-out of an unsaturated position and I'll show that as a consequence of this fact it is subject to the same constraints which, at the syntax/semantics interface, rule the interpretation of events.

I'll also show that many phenomena often attributed to discourse grammar – and hence dubbed as *logophoric* – can be predicted and reduced to the principles of sentence grammar and local binding sketched here.

2.1. Introducing the hypothesis

In this section I'm going to illustrate briefly the version of sequence of tense proposed in Giorgi & Pianesi (2001, 2003a; 2003b). The proposal has been named *Generalized Double Access Reading – Generalized DAR* from now on.

As a first step, let me illustrate what the DAR is. Consider the following examples, in Italian and English:

(49)   Gianni ha detto che Maria è incinta.

(50)   Gianni said that Mary is pregnant.

The meaning of this sentence is that the state of pregnancy must stretch from the time of Gianni's saying it to the present moment – i.e., the state of Maria being pregnant must hold at both times. The embedded present tense is interpreted as expressing simultaneity both with respect to the event of the main clause, the *saying* episode, and with respect to the time of the utterance event. Notice that this is not a universal property, given that it holds only in some languages, such as Italian and English, but it does not hold in other ones, such as for instance, Japanese, Chinese, and Russian.

Giorgi & Pianesi propose that the DAR is not a property restricted to the present tense, but that it also holds of the embedded past and the embedded future – hence, they name it *Generalized DAR*:[28]

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[28].   Abusch (1997) and Stowell (1996), on the contrary, argue in favor of limiting the DAR to the present tense.

(51) Gianni ha detto che Maria ha telefonato.

(52) Gianni said that Maria called.

(53) Gianni ha detto che Maria telefonerà.

(54) Gianni said that Maria will call.

In examples (51) and (52) the embedded event is in fact interpreted as past both with respect to *now* – the utterance event – and with respect to the matrix saying event. Analogously, The embedded event in (53) and (54) is future both with respect to the matrix saying episode and with respect to *now* – i.e., the utterance time. In other words, the embedded eventuality, in order to be located in time, accesses both the utterance time and to the time of the matrix event.

The point relevant for my discussion concerns the way the temporal interpretation is achieved. Giorgi & Pianesi propose that the Interpreted Logical Form (ILF, see Larson & Segal 1995), on which the temporal interpretation takes place, in these cases contains both the temporal coordinate of the speaker and the one of the bearer of the attitude – which in *most* cases is the superordinate subject.

With respect to the coordinate of the bearer of the attitude, the authors partially follow a proposal by Higginbotham (1995). He argues that by means of tense, thought contents make room for reference to their own episode (*tensed thoughts*) and that therefore the matrix episode must be represented in the embedded clause. According to Giorgi and Pianesi, therefore, the temporal anchoring of the embedded event to the matrix one amounts to the fact that the ILF of the embedded clause contains a temporal relation holding between the event of the embedded clause, and that of the embedding one. The temporal coordinates of the superordinate subject appear in the lower T projection.

With respect to the temporal speaker's coordinate, Giorgi and Pianesi (1997; 2004) discuss a split-C framework according to which – as far as the temporal relations are concerned – two distinct complementizers must be distinguished in embedded clauses.[29] They identified a lower one, called MOOD, related to the presence of an embedded

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[29]. The positions in the Complementizer layer might be more numerous than that. See Rizzi (1997). I focus here only on the positions involved in the temporal anchoring process.

subjunctive verb, and C, the higher one, which roughly speaking – but see below for a more detailed discussion – appears with the indicative verbal forms.

In Giorgi and Pianesi (2004) a strict relationships between the DAR and the higher complementizer C is proposed: the DAR is possible iff C is projected (irrespectively of the tense chosen).

As I said above, C is associated with the speaker-oriented assignment sequence – namely, the temporal coordinate of the speaker is represented there – and is endowed with temporal features (τ-features) entering a relationship with those of the embedded T, either by movement or by matching.

When the ILF for the embedded clause is computed and the interpretive contribution of tense is spelled out, the eventive variable ends up being the same in C and in T, getting therefore a *double* evaluation. It is evaluated with respect to the bearer of attitude's coordinate – syntactically represented in T – and the speaker's coordinate – syntactically represented in C. This proposal accounts for the peculiar semantics of the DAR and for the properties of indicative clauses vs. the subjunctive ones.[30]

Crucially, however, the distribution of an embedded subjunctive is ruled by a peculiar set of principles, different from the indicative ones. Consider the following paradigm:

(55)   Gianni crede che Maria sia /*fosse intelligente.
       Gianni believes that Maria is (SUBJ) / was (SUBJ) intelligent

(56)   Gianni credeva che Maria fosse/*sia intelligente.
       Gianni believed that Maria was (SUBJ) / is (SUBJ) intelligent

Simplifying somehow, in these examples, the choice of the subordinate tense depends solely on the tense of the superordinate clause. If a present tense appears in the matrix clause, then a present subjunctive must appear in the subordinate one, and a past form is ruled out. The opposite holds if the matrix clause contains a past form. The subordinate clause as well must feature a past form. The interpretation of the embedded event is, if

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[30].   Giorgi and Pianesi (2004) also discuss the subjunctive clauses embedded under a verb belonging to the *ipotizzare* (hypothesize) class, which strongly support their view. For further discussion, I refer the reader to their paper and references cited there.

not otherwise specified, a simultaneous one – i.e., the embedded eventuality holds at the same time as the matrix one. Consider for instance the following example:[31]

(57) Gianni credeva che Maria partisse oggi/ieri/domani.
       Gianni believed that Maria left(PAST SUBJ) today/yesterday/tomorrow

The embedded verbal form, though grammatically past, is compatible with all possible temporal references. In other words, the presence of a present vs. a past subjunctive in an embedded clause depends, at least in the cases (55)-(57), on the tense of the superordinate clause and can therefore be considered a morphological agreement phenomenon. As a consequence, no question arises in connection to the DAR, given that no temporal relation must be independently interpreted.

The generalization concerning the distribution of LDAs in Italian is the following: whenever the speakers coordinates are represented in the embedded clause, and the DAR obtains, then the anaphor cannot "go beyond" that clause. In other words, the speaker's coordinate delimits the domain of LD binding. Moreover, the bearer of the attitued – in *most* cases coinciding with the superordinate subject – is Consider again the subjunctive/ indicative contrast given above, in exx. (40)-(43), reproduced here for simplicity:

(58) *Quel dittatore$_i$ ha detto che i notiziari televisivi hanno parlato a lungo delle proprie$_i$ gesta.
       That dictator said that the TV news programs talked(PAST-IND) for a long time about self's deeds

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[31].   In Giorgi & Pianesi (1997, 2004) the hypothesis that subjunctive mood in embedded clauses is determined by an operator is examined and rejected. The main evidence comes from the analysis of factive contexts featuring the subjunctive such as *rimpiangere* (regret). The operator hypothesis in fact is shown to be unable to provide the correct semantics in these cases. For further details, I refer the reader to their discussion. Note also that my summary of Giorgi and Pianesi's proposal is simplifying and ignoring several points, which however are important for their general discussion.

(59) *Quel dittatore$_i$ ha detto che i notiziari televisivi parleranno a lungo delle proprie$_i$ gesta.
That dictator said that the TV news programs will talk (FUT-IND) a lot about self's deeds

(60) Quel dittatore$_i$ spera che i notiziari televisivi parlino a lungo delle proprie$_i$ gesta.
That dictator hopes that TV news programs will talk (PRES-SUBJ) for a long time about self's deeds

In examples (58) and (59) the embedded verb is an indicative form. According to the proposal by Giorgi & Pianesi, in order to be interpreted, the embedded tense – be it past, present, or future – must be first interpreted in T, where the subject's – the bearer of the attitude – coordinate is represented, and then in C, where the speaker's coordinate can be retrieved. In example (60) a subjunctive form appears. According to Giorgi & Pianesi's proposal, only the subject's coordinate is represented, and not the speaker's. Consistently, LD binding obtains in (60), but not in (58) and (59). Consider also the following cases:

(61) Quel dittatore$_i$ ha detto che i notiziari televisivi avrebbero parlato a lungo delle proprie$_i$ gesta.
That dictator said that TV news programs would talk (FUT-IN-THE-PAST) a lot about self's deeds

(62) Quel dittatore$_i$ credeva che il primo ministro$_j$ avesse detto che i notiziari televisi avrebbero parlato a lungo delle proprie$_{i/j}$ gesta.
That dictator believed that the Prime Minister had(PAST-SUBJ) said that the TV news program would talk (FUT-IN-THE-PAST) a lot about self's deeds

Consider also that it is not the verb type appearing in the matrix clause that gives rise to such an effect – i.e., *dire* vs. *credere* – as shown by the fact that LD binding is acceptable in example (61) and (62). In sentence (61) the embedded verbal form is a future-in-the-past – namely, a form which is sensitive only to the temporal location of the subject and not to that of the speaker, as opposed to a *will*-future, as can be seen in example (59) above. In this respect, this form is parallel to the English one, though morphologically different. Accordingly, the binding of the anaphor with *quel dittatore* (that dictator) is possible. In example (62), a *would*-future appears in the most

embedded clause, and a subjunctive form of *dire* appears in the intermediate one. Therefore, not only the subject of *dire* (the prime minister) is available for binding, but also the subject of the more superordinate clause can be accessed for binding purposes. Concluding, whatever permits LD binding must not be taken to be a property of the predicate in itself – i.e., of *dire* vs. *credere* – but of the specific verbal form. My proposal is that this is related to the necessity of representing the speaker's coordinate.

As a conclusion of this section, let me propose a principle of anaphoric binding, which I'll discuss and amend in the following sections:

(63)   Long distance anaphoric binding:
       a) a LDA is the spell-out of an unsaturated position
       b) it can be saturated either by a co-argument, or
       c) by the bearer of the attitude[32]

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[32].   For simplicity, I'll assume here that morphologically complex anaphors such as *se stesso*, *himself* and *ta-ziji*, obey principle A of the binding theory. Only anaphors escaping principle A of the binding theory can spell out unsaturated positions. Something similar has been proposed in the literature, for instance by Reuland and Reinhart (1993), who claimed that the core cases of binding excluded possessive anaphors, anaphors in PPs, etc, basically including only items in argumental position. Notice that the prediction concerning which items would follow which strategy is language internal. In fact, *ta-ziji* is marked for person and only for person, exactly like *proprio*. *Proprio* however, can be long distance bound, whereas *ta-ziji* is only local. See also §1 for a discussion.

Moreover, recall that a complex item such as *each other*, when able to escape principle A of the Binding Theory, is subject oriented, exhibiting therefore long distance features. This shows that Pica's (1987) criterion, of being mono-morphemic is not accurate, since it certainly cannot be applied to *each other*. See Safir (1996) for a discussion.

It seems to me that Burzio's (1994) and Safir's (2003a,2 003b, 2003c) intuitions can be taken to be correct, with respect to the way the items entering the Numeration is selected. The property according to which languages define which item is a LDA could be the following: the *least* specified item is selected to mark unsaturated position. Intuitively, this makes sense, because the property of an unsaturated position crucially must depend on the item which saturates it, and not on the position marker. In other words, it is not the case that anaphors need an antecedent because they lack features, but in the contrary, they lack features because they need an antecedent – i.e., they are used to mark unsaturated positions. For further discussion on this topic, see Giorgi (2004a and 2004b).

The notion of *unsaturated position* will be discussed in the following section (see also Giorgi 2004a). As far as the possessive anaphor *proprio* is concerned, it can be proposed that the whole nominal projection works as an unsaturated phrase. Huang & Liu (2001) discuss the same proposal with respect to *ziji* in genitive position inside nominal projections.[33]

If identification with a co-argument does not obtain, then the whole verbal extended projection – i.e., the TP, if the verb is an indicative, or a MOODP, if it is a subjunctive – becomes an unsaturated phrase, given that the unsaturated position percolates (Cf. for discussion of this point Larson & Segal 1995). The bearer of the attitude is accessible in TP – with indicatives – and MOODP – with subjunctives – and is therefore a suitable antecedent for the anaphor. These steps can apply recursively, so that subject orientation is, in principle at least, unbounded.

Notice that subject orientation obtains derivatively, since the antecedent is not the subject itself, but the bearer of the attitude, represented in the embedded clause for interpretive purposes. In *most* cases, the bearer of the attitude coincides with the subject, hence the subject orientation effect. I'll show the consequences of this idea with respect to psych-verbs, where it contributes in explaining a long-lasting puzzle.

Notice that points (b) and (c) do not represent two independent strategies, but are the expression of the same general property – namely, an unsaturated position must be saturated as locally as possible. Therefore the anaphor looks first for co-arguments in the same predicate and then, as the context expands – and the unsaturated argument percolates – it looks for the bearer of the attitude, i.e., in most cases – but not *all* of them – the superordinate subject.

In sub-sections 2.2 and 2.3, I'll discuss further details related to the proposal in (63). In section 3 I'm going to show how this hypothesis is able to correctly predict the distributions of LDAs in the various contexts.

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[33]. The fact that Italian and Chinese seem to behave alike in this particular domain, might be an additional argument in favor of this move, though this does not make it clearer why this should be the case. It could be speculated that the prenominal (genitive) position is the position actually defining the reference of a Noun Phrase. If it happens to be anaphoric, therefore, the whole nominal projection counts as such.

2.2. LDAs as unsaturated positions

It has often been the case that anaphors have been considered in the literature as bound variables *tout court*. Here I'll show that LDAs must be analyzed by means of a finer grained theory of reflexives, and that—though they can behave as bound variables, for instance when bound by a quantifier – they fall in a different class. I'll distinguish *unsaturated* positions, from *open* positions – i.e., bound variables. I discuss this point more extensively in Giorgi (2004b), in this section I'll summarize the basic considerations.

The distinction unsaturated vs. open positions is discussed in Higginbotham (1997, see also Higginbotham, 1985). I'm not going to reproduce here the arguments to this end. I'll propose a mechanism along the same lines, applied to LD anaphoric items.[34]

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[34]. Reuland (2001a) identifies anaphors with bound anaphors. In this perspective, the question he has to address is why in certain contexts the anaphor has to be selected and why in other ones the pronoun has. He considers the following Dutch examples:

(i)   *Oscar* voelde [*zich* wegglijden]   (Reuland's ex.(21))
      Oscar felt himself slide away

(ii) *Oscar* voelde [*hem* wegglijden]   (Reuland's ex. (22))
      Oscar felt him slide away

He argues that both sentences have the same interface representation:

(iii) Oscar λx (x felt (x slide away))   (Reuland's ex. (23))

The question is therefore why (i) is chosen over (ii) as a source for (iii). I'm not attempting to give here an exhaustive answer to this problem, as I remarked in the introduction. I think that the question is relevant with respect to (ii), and in general as far as the nature of principle B is concerned – i.e., it seems to me that the real problem is why (ii) cannot be exhaustively translated by means of (iii).

As far as this paper is concerned, I take for granted the existence of a principle of disjointness – or *obviation* adopting Higginbotham's (1985) terms – concerning pronouns. I' propose that, as far as an anaphor like *proprio* is concerned, a representation such as the one in (iii) would not capture its core properties.

There are distributional differences between anaphors and bound pronouns, which are rather obvious: bound pronouns are not subject oriented, are not sensitive to subjunctive/indicative distinction etc. Moreover, and more importantly, there are semantic differences. In Kaplan's contexts, which I briefly illustrated above, rediscussed in Chierchia (1989), long distance anaphors are unambiguously *de se*, whereas pronouns maintain the ambiguity:[35]

(64)   John$_i$ thinks that his$_i$ pants are on fire.

(65)   Ogni ragazzo$_i$ pensa che i suoi$_i$ pantaloni siano in fiamme.

(66)   Every boy thinks that his pants are on fire.

(67)   Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme.
       Gianni thinks that self's pants are on fire

(68)   Ogni ragazzo$_i$ pensa che i propri$_i$ pantaloni siano in fiamme.
       Every boy thinks that self's pants are on fire

When the pronoun is bound by a quantifier, both the first-personal and non first-personal readings are available, like in (65) and (66). However, when the anaphor is present, only the first-personal reading is acceptable – cf. ex. (68). Given this paradigm, it seems necessary to set the two cases apart. The conclusion is that the anaphor and the

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[35].   In Italian, to my judgment, and in English – at least for the speakers I interviewed – the ambiguity between first-personal and non first-personal interpretation holds even in the case of sloppy reading:

(i)   Maria pensava che la sua casa fosse in fiamme, e anche Gianni.
        Maria believed that her house was on fire, and Gianni too

(ii)   John thought that his pants were on fire and Bill too.

The pronoun in these cases is ambiguous in both clauses, as expected. Coherently, *proprio*, is only *de se*:

(iii)   Maria pensava che la propria casa fosse in fiamme, e anche Gianni.
        Maria believed that self's house was on fire and Gianni too

bound pronoun cannot be tout court identified with each other. Williams (1987; 1989) proposed that the binding theory operates on thematic relations and not on syntactic projections.[36] Higginbotham (1997) developed this view proposing a theory of *implicit anaphora*.[37]

An unsaturated position might be saturated by means of the identification process with a co-argument. In that case, no subject orientation obtains. Identification with a co-argument only requires c-command at the relevant level.[38]

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[36]. Williams (1987, p.159) reformulates principles A, B and C of the binding theory as principles A, B and C of the *Th-binding theory*. Furthermore, he also defines the notion of *th-command*, analogous to the one of c-command.

[37]. As well known, empty positions in Italian, with the exception of the subject of tenseless clauses – PRO – are pronominal ones. See Rizzi (1986) for a discussion of some cases of *pro* in object position. The question of why there aren't empty anaphors is however far from trivial and should be reconsidered in the light of the Minimalist perspective (Chomsky, 1995, 1998). I'm not going to define what a co-argument is and will leave the notion vague and intuitive. A proper definition of co-argumentality would lead me too far away from the main issue. Reinhart & Reuland (1993) make extensive use of the notion of co-argument. They adopt the strictest possible view on what counts as a co-argument, basically limiting it to arguments of the same (verbal) predicate. I refer the reader to their discussion and will not pursue this question any further.

[38]. To complete the discussion, consider the examples (i) and (ii). The anaphor in (i) is bound by the local subject *Gianni* and must also be interpreted as a variable. The non-variable reading is available for the pronoun in (ii), but not for the anaphor:

(i)   Solo Gianni ama la propria madre.
     Only Gianni loves self's mother

(ii) Solo Gianni ama sua madre.
     Only Gianni laves his mother

This fact follows without any further stipulation: The anaphor in fact marks an unsaturated position and the saturation process identifies it with the co-argument *Gianni*. The pronoun, on the contrary is an entity that can *refer* to something else. In the non-bound reading of (ii) *sua* 'stands for' *Gianni* and this interpretation is 'carried over' to the second conjunct. For simplicity, I'm disregarding here many details

Going back to the first personal cases, consider the following example:

(69)   Solo Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme.
         Only Gianni thinks that self's pants are on fire

In this case the anaphor is interpreted both first personally and as a bound variable. The first personal reading subsumes the bound variable one: It would be a nonsense for the anaphor to be simultaneously first personal and *not* a bound variable; no such interpretation can in principle be available. The issue, therefore, is to explain why the anaphor, in these positions, has to be first personal, and not why it is a bound variable.

Putting it informally, the anaphor is first personal, precisely because it marks an unsaturated position. Namely, there isn't anything there which 'takes a reference' in the sense a pronoun does.

Another set of data pointing to the same conclusion comes from the analysis of the so-called *near reflexives*. Jackendoff (1992) pointed out that anaphors in English can have the statue reading in a *Mme. Tussaud setting*. Namely, if we take a scenario like the wax museum, we might imagine that some famous persons visiting it might see their own statues. Jackendoff notices that in such a scenario a sentence such as (70) can mean (71), but not (72):

(70)   Ringo fell on himself   (Jackendoff's 13)

(71)   'The actual Ringo fell on the statue of Ringo'   (Jackendoff's 13a)

(72)   'The statue of Ringo fell on the actual Ringo'   (Jackendoff's 13b)

Sentence (70) can be interpreted as: wandering around at the wax Museum the famous Ringo Starr might fall on its own statue, but not the other way around. The analysis provided by Jackendoff is mainly devoted to the explanation of the contrast between (71) and (72). Though (72) is in principle a possible meaning – for instance, as a

concerning the precise interpretation of *only* sentences. See Rooth, among the others, (1992) for an extended analysis.

consequence of a sudden earthquake, the statue of Ringo fell on him – (70) cannot express it.[39]

Lidz's (2001a, 2001b, 2001c) analyzed these cases and proposes the term *near reflexives* for anaphors in the statue setting. He discusses an account – Condition R – for the unavailability of the near reflexive reading in the local context. In his approach, the anaphors must be classified on the basis of the possibility of instantiating the *near-reflexive function*. As a lexical property, they have – or lack – the possibility of taking a *near-antecedent* (such a statue). Lidz represents the two readings in the following way (from Lidz, 2001a, exx.15a - 15b):

(73) $\lambda x \, [P(x,x)]$ (Semantic/ Pure-reflexive)

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[39]. Burzio (1994) noticed that in Italian the statue reading is only available with the complex anaphor *se stesso* (lit: self-same) and not with the simple anaphor *sé* (self). Burzio gives the following examples, where the subscript *S* stands for *statue*:

(i) Ringo cadde su se stesso$_S$ (Burzio's 27a. The judgment is mine)

  Ringo fell on self-same

  'Ringo fell on himself'

(ii) *Ringo cadde su di sé$_S$ (Burzio's 27b. The judgment is mine)

  Ringo fell on of self

  'Ringo fell on himself'

Burzio (1994) actually assigns a '?' to the sentence in (i) and a '??' to the sentence in (ii). To my ear, however, the contrast is quite sharp, and can be considered as 'good' vs. 'ungrammatical'.

In addition to this contrast, Burzio (1994) also notices that the reflexive *si* is also not available in the Mme. Tussaud setting:

(iii) *Ringo si$_S$ è sputato addosso (Burzio's 27c)

  Ringo to-self spat upon

  'Ringo spat on himself'

(iv) * Ringo si$_S$ è rotto un braccio (Burzio's 27d)

  Ringo to-self broke an arm

  'Ringo broke his arm'

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(74)   λx [P(x, f(x))]   (Near-reflexive)

Condition R is represented as follows:

(75)   λx [P(x,x)] ↔ (θ1=θ2)   (from Lidz, 2001a, ex.17)

This condition states that if a predicate is semantically reflexive − where semantic reflexivity excludes the availability of near-reflexive readings − it must be lexically reflexive. Conversely, if a predicate is lexically reflexive, then it must be semantically reflexive − i.e., it must exclude near-reflexivity. This way, he excludes near-reflexivity in (75).

Liu (2003) analyzes the distribution of the near reflexive reading with clause-bound reflexives in Chinese.

(76)   Mao Ze-Dong ba *ziji*$_S$ qiangbi le   (from Liu, 2003, ex. 3, subscript mine)
         Mao Ze-Dong BA self shot ASP
         Mao Ze-Dong shot himself'

(77)   (Zai ziji-de tongxiang qian), Jiang Jie-Shi yong gunzi da-le *ta-ziji*$_S$ yi-xia
                                        (from Liu, 2003, ex.4, parentheses and subscript mine)
         (At self-DE statue before), Jiang Jie.Shi use cane hit-Asp himself one-cl
         (In front of his statue), Jiang Jie-Shi uses a cane to hit himself

Both the anaphors *ziji* and *ta-ziji* can have a near-reflexive interpretation − i.e. they can refer to the statue, whereas the proper name refers to the actual person.
The same holds in Italian, with the clause bound *proprio*:

(78)   Ringo ammirò il proprio viso.
         Ringo admired self's face
         'Ringo admired his face/ the face of his statue'

On the contrary, the near reflexive reading is unavailable for LDAs, both in Italian and Chinese:

(79) Ringo$_i$ temeva che i visitatori danneggiassero il proprio$_i$ viso.

    Ringo was afraid that the visitors might damage self's face

    'Ringo was afraid that visitors might damage his face/ *his statue's face

(80) Mao Ze-Dong$_i$ ba yiwei Lisi zhuyi-dao ziji$_i$ le

    Mao Ze-Dong BA thought that Lisi noticed self ASP

    Mao Ze-Dong thought that Lisi noticed himself/ *his statue

In (79) and (80), *proprio* and *ziji* are LD bound and near reflexivity is ruled out. The problem therefore is the to explain why *ziji* and *proprio* can instantiate the near-reflexive function in the local domain, whereas they cannot do it in the non-local one.[40] The hypothesis I'm arguing for here can account for these facts. An unsaturated position is theta-identified with the antecedent, and therefore – coherently with the proposal by Lidz concerning the local contexts – near-reflexivity is excluded.

2.3. Anaphoric temporal locutions and SOT mechanisms

In this section, I'll further discuss the issue concerning the representation in the morphosyntactic structure of the embedded clause of the speaker's and the subject's coordinates. I'll show that the constraints applying to anaphoric temporal expressions in embedded contexts also affect the distribution of LDAs.

Giorgi & Pianesi (2003b) analyze anaphoric temporal expressions such as *il giorno dopo* (*the day after*), which cannot appear in DAR contexts. I'll briefly summarize the discussion relevant for the present work. Consider the following cases:[41]

(81) #Gianni è partito il giorno (mese/ anno / ora) prima/ dopo.

    Gianni left the day (month/ year, hour) before/ after

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[40].   The Chinese anaphor *ta-ziji* (lit: him-self) is only clause bound. I thank Audrey Li and Luther Liu for judgments and discussion on this point.

[41].   This pattern differs slightly between Italian and English, though the basic properties remain the same. However, what is relevant here is the distribution in Italian, given that I'm examining LDAs in this language. See Giorgi & Pianesi (2003b) for details.

(82)   #Gianni partirà il giorno prima/ dopo.
       Gianni will leave the day before/ after

The day after and *the day before* are anaphoric temporal locutions. Therefore, they must have an antecedent. For this reason, examples (81) and (82) are deviant if uttered out-of-the-blue. This fact also means that the utterance time is not a suitable antecedent: these sentences in fact cannot mean that *Gianni left the day before (or the day after) the day* ***of the utterance***.

If a suitable antecedent is provided by the context, (81) and (82) are acceptable, as shown by the discourses constituted by (83) followed either by (84) or by (85):

(83)   A: Gianni è partito il 23 maggio.
       A: Gianni left on May 23rd

(84)   B: Ma no! E' partito il giorno prima!
       B: Oh no! He left the day before!

(85)   B: Ma no! E' partito il giorno dopo!
       B': Oh no! He left the day after!

DAR contexts are not felicitous for these expressions:

(86)   #Gianni ha detto che Mario partirà due giorni dopo.
       Gianni said that Mario will leave two days after.

(87)   Gianni ha detto che Mario sarebbe partito due giorni dopo.
       Gianni said that Mario would leave two days after.

According to the proposal discussed by Giorgi & Pianesi (2003b), the embedded sentence in (86) is a DAR context, because the eventuality must be located with respect to the time of the superordinate clause – as the standard anchoring procedure – and with respect to the time of the utterance. Adopting the framework I just sketched in the previous sections, in (86) both the subject's coordinate and the speaker's one have to be represented, in T and C respectively. This is not the case with (87), because the *would-*

future does not require an evaluation with respect to the utterance time – i.e., only the subject's coordinate is represented in the embedded clause.[42]

As I briefly sketched above, the theoretical account proposed by Giorgi & Pianesi (2001) requires the embedded temporal form in DAR contexts to be interpreted twice: first with respect to the subject's coordinates and then with respect to the speaker's coordinate. In DAR contexts in fact the speaker as well qualifies as a bearer of an attitude toward the content of the embedded proposition, together with the matrix subject. Therefore, they are both relevant for the interpretation of tense and of the anaphoric temporal locution.

The interpretation of the empty position of the temporal locution – *prima x* (before x) – contributes to the location of the event of the embedded clause. As a consequence, in (86) the empty position is interpreted both as the day preceding the one in which Gianni spoke, and as the day preceding the day of the utterance. The outcome of this process is the lack of a coherent interpretation of the embedded clause, because the second part of the interpretive process – namely, the assignment of a value under the sequence

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[42]. Giorgi & Pianesi (2003b) argue that also the contrast between (i) and (ii) is due to DAR/non-DAR distinction:

(i) #Gianni ha detto che Mario è partito il giorno prima.
     Gianni said that Mario left the day before

(ii) Gianni ha detto che Mario era partito il giorno prima.
     Gianni said that Mario had(IMPF) left the day before

The present perfect in the embedded clause in (i) requires to be anchored both to the matrix clause and to be located with respect to the utterance time. In (ii), on the contrary, the *imperfect* does not exhibit the same requirement and has only to be located with respect to the matrix eventuality. The corresponding contrast featuring LDAs is subtle, but it seems to me to go in same direction:

(iii) *Quel dittatore$_i$ ha detto che i libri di storia non hanno parlato abbastanza delle proprie$_i$ gesta.
     That dictator said that the book of history didn't talk enough about self's deeds

(iv) (?)Quel dittatore$_i$ ha detto che i libri di storia non avevano parlato abbastanza delle proprie$_i$ gesta.
     That dictator said that the book of history didn't talk enough about self's deeds

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featuring the speaker's coordinate –fails. The process takes place locally, as a by-product of the temporal interpretation of the embedded clause.

These considerations imply a partial revision of Giorgi & Pianesi (2003b). The *empty* position inside the temporal anaphoric locution, in fact, should be better seen as an unsaturated position, along the lines of nominal anaphors, then as a variable, as proposed by the authors.

3. Back to LDAs

The distribution of the LDAs exactly parallels the case of the anaphoric temporal locutions described above. According to my proposal, these facts follow from the same theory.

The extended verbal projection – as I said above, the TP in the case of the indicative and the MOODP in the case of the subjunctive – is a phrase with an unsaturated position. According to the principle of binding given in (63), if this position fails to be saturated by means of a co-argument, it is saturated by means of the sequence assignment. Therefore, it is saturated by the value provided by the bearer of the attitude – namely, *in most cases, but not all of them,* the superordinate subject. The process applies recursively, each value that can be picked up in the course of the process being a possible "antecedent" for the anaphor. The process stops when the speaker's assignment sequence intervenes. At that point, all positions must be saturated and cannot be further operated upon. This makes intuitive sense, given that we might think of the speaker's assignment sequence as something that is not a relative assignment, but an absolute one, referring to the actual world. [43]

Notice also that this is a very general requirement of anaphoric Noun Phrases. In other words, this is why anaphors must have an antecedent: when the speaker's coordinate comes into play, all positions have to be made interpretable, hence, saturated. This is why antecedent-less anaphors are ungrammatical:

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[43]. Notice the similarity of the conclusions – though *not* of the method or of the basic assumptions – with the logophoricity approach. The bearer of the attitude in fact, is likely to be the *pivot, self,* or *source* of the clause. The predictions however, are more accurate, given that the notion of speaker's and subject's coordinate presents some advantages over the more vague notions of *pivot, source* and *self.*

(88) *Io amo la propria madre.
       I love self's mother

(89) *I love himself.

Since a first person pronoun is not a possible antecedent in Italian, or English –*propria* and *himself,* being third person – the anaphor has no antecedent. This implies that the event cannot be properly interpreted by being evaluated with respect to the speaker's coordinate. Moreover, the process is strictly local and cannot be extended beyond the limit of the sentence – i.e., even if the preceding, or following, discourse provides a suitable antecedent, it cannot be picked up by the anaphor:

(90) Ieri Gianni mi ha salutato. *Io ammiro la propria madre.
       Yesterday Gianni said hello to me. *I admire self's mother

In this example, a feature compatible antecedent, the third person NP *Gianni*, is present in the previous discourse, but the anaphor *proprio* cannot refer to it.[44]

If the general rule is that once the sentence is located with respect to the utterance time – i.e. the speaker's coordinates – all positions in the sentence must be saturated, the unacceptability of (90) immediately follows.

In this way there is no need to hypothesize a special mechanism for LDAs. The machinery which is independently needed for temporal anchoring also accounts for anaphor binding, both in the case of temporal anaphors, as I showed above, and in the case of nominal ones.

Let us consider now the various cases one by one. Consider first the embedded subjunctive:

(91) Gianni$_i$ crede che Paolo$_j$ odi la propria$_{i/j}$ moglie.
       Gianni believes that Paolo hates(SUBJ) self's wife

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[44].   The relevant issue here is not how to state a *ban* against taking an antecedent from outside the sentence, since, as many scholars shown, this can often be the case, even in languages like English. The relevant question is *why* in these cases it is impossible, and what exactly licenses an (apparent) sentence-external antecedent in the so-called logophoric cases (see Zribi-Hertz, 1989). See sec. 5 for some considerations on this point.

This sentence is ambiguous, in that both *Paolo* and *Gianni* are possible antecedents. *Paolo* is a co-argument of the anaphor and satisfies the c-command requirement.[45] If this is not the intended antecedent, the whole verbal extended projection – the MOODP – is marked as having an unsaturated position. The bearer of the attitude, *Gianni*, is locally available and can therefore be selected as a possible antecedent. For details on the how the relevant ILF is built, I refer the reader to Larson and Segal (1995)

The process could proceed further, as for instance in the following case:

(92) [s1Mario supponeva [s2che Gianni credesse [s3che Paolo odiasse la propria moglie]]]

Mario supposed that Gianni believed(SUBJ) that Paolo hated(SUBJ) self's wife

The MOODP in S2 can be marked as having an unsaturated position and the bearer of the attitude toward the content of that clause, in this case *Mario*, is locally available. Let me stress again that the subject's coordinate is represented in the embedded clause and is independently needed to fix the temporal reference. Consider now the indicative:

(93) Gianni$_t$ ha detto che Maria$_j$ ama la propria$_{*i/j}$ madre.

Gianni said that Maria loves(IND) self's mother

Maria is locally available for binding, given that it qualifies as a c-commanding co-argument. *Gianni*, however, is not an acceptable antecedent. Let me illustrate how this can be derived.

If *Maria* is not the intended antecedent, the whole TP is marked as an unsaturated phrase. At the next step, the bearer of the attitude should in principle saturate the position in question. In this case, however, since the sentence is a DAR context, the event has to be located with respect both to the subject's coordinate and to the speaker's one. As we saw in section 2.3, this poses conflicting requirements. Notice that this consideration provides a strong argument in favor of the unification of *temporal* unsaturated positions with *nominal* ones.

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[45]. It is actually a co-argument of the DP containing the anaphor. As I briefly discussed above, I will simply assume that a possessive anaphor makes the DP immediately containing it an anaphoric item. Namely, *proprio NP* acts as an anaphor. Therefore, its co-arguments are the other arguments of the verb governing the DP in question.

Finally, given that the event is now located with respect to the utterance time, the process has to stop, and higher nominal elements cannot be considered as suitable antecedents, so that further embedding does not improve the sentence:

(94) Paolo$_w$ sa che Gianni$_t$ ha detto che Maria$_j$ ama la propria$_{*w/*i/j}$ madre.
     Paolo knows that Gianni said that Maria loves(IND) self's mother

Let us consider now the more complex case related to psych-verbs. I reproduce here the examples given above, for simplicity:

(95) La propria$_i$ moglie preoccupa molto Gianni$_i$
     Self's wife worries Gianni a lot

(96) Che tutti ambiscano al proprio$_i$ incarico preoccupa molto il primo ministro$_i$
     That everybody wishes(SUBJ) self's office worries the Prime Minister a lot

(97) *Il primo ministro$_i$ preoccupa molto chiunque ambisca al proprio$_i$ incarico.
     The Prime Minister worries a lot everyone who whishes(SUBJ) self's office

(98) Chiunque ambisca al proprio$_i$ incarico preoccupa molto il primo ministro$_i$
     Everyone who wishes(SUBJ) self's office worry the Prime Minister a lot

The sentence given in (95) can be easily accounted for under any theoretical perspective assuming for these cases c-command from the object to the subject, at the appropriate level of representation. See among the others, Belletti and Rizzi (1988) and Pesetsky (1995) for proposals to this effect. In my terminology, this example would constitute a simple case of co-argumentality.[46]

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[46]. Notice that the reverse case is also grammatical:

(i) Gianni$_i$ preoccupa la propria$_i$ moglie.
    Gianni worries self's wife

The grammaticality of this example can be accounted for by principle A of the binding theory, where principle A is taken as distinct from the principle I suggested in (63). I haven't discussed in fact what's the relation of the principle in (63) with principle A. The issue also bears on the status of non-LDAs such

With respect to (96), where the anaphor is deeply embedded in the subject clause, the same mechanism adopted in the LD cases discussed above is at work. Adopting the framework I just sketched, *the Prime Minister* is the bearer of the attitude, and as such, it qualifies as a suitable antecedent for the LDA – or, better to say, it can saturate the unsaturated MOODP. Example (97) is ungrammatical: in this case, *the Prime Minister* is not the bearer of the attitude, and contrasts minimally with (98).[47]
Consider now the case of a LDA embedded in an adverbial clause:[48]

(99) Il primo ministro$_i$ sperava che il dittatore$_j$ partisse prima che i rivoluzionari sequestrassero il proprio$_{i/*j}$ patrimonio.
The Prime Minister hoped that the dictator left(SUBJ) before the revolutionaries sequestered self's   patrimony

In this case, the anaphor must refer to the subject of the main clause, and cannot refer to the intermediate subject. Irrelevantly, the local subject, *the revolutionaries*, could work as a suitable antecedent, as a consequence of co-argumentality. The availability of the highest subject *the prime minister*, and the unavailability of the lower one, th*e dictator*, is easily explained by the proposal suggested here: *That dictator* is not an attitude bearer for the adverbial clause. The adverbial clause, though featuring the subjunctive, does not get it as a function of sequence of tense, but on the basis of independent properties,

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as *se stesso*, *himself* and *ta-ziji*. See Safir (2003a, 2003b, 2003c) for a discussion. The idea, however, would be that case (i) is not different from the one with a simple transitive verb, like *amare* (to love):

(ii)   Gianni$_i$ ama la propria$_i$ moglie.
Gianni loves self's wife

For the time being, I can hypothesize that the two principles coexist and that principle A holds of so-called *morphologically complex* anaphors. *Proprio* partakes of both strategies, as originally proposed and discussed in Giorgi (1983; 1990).

[47].   These examples feature a relative clause instead of a subordinate one. It is a well-known fact that relative clauses behave differently from complement ones with respect to the anchoring phenomena. However, their specific properties can be disregarded in the present discussion.

[48].   For a discussion along rather similar lines, see also Williams (1989, p. 442).

connected with the semantics associated with it.[49] On the contrary, *the prime minister*, is a possible antecedent, being the bearer of the attitude relevant for the interpretation of the intermediate complement clause. Recall in fact that the process applies recursively until the event is placed with respect to the utterance one.

Let's consider now the cases in which the LDA is embedded in the subject position.[50]

(100)   Gianni$_i$ ha detto che la propria$_i$ madre ha telefonato.
          Gianni said that self's mother called(IND)

In this case, the superordinate subject Gianni is available as an antecedent for the LDA. The embedded verbal form is in the indicative, which usually, as we saw above, has a blocking effect on LD binding. This observation can be accounted for considering the way in which the relevant ILF is derived. What is to be located with respect to the subject's and the speaker's coordinates is the TP – namely, the event has to be located in time with respect to the other relevant events, but the subject falls outside the domain of the TP. The same procedure as before applies and the whole TP of the main clause is marked as an unsaturated phrase. The subject *Gianni* is locally available as a suitable

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[49]. In this particular case, the presence of the subjunctive can be due to the peculiar semantic representation of the clauses introduced by the preposition *prima* (before), as opposed for instance to the preposition *dopo* (after). Consider the following cases:

(i)   Gianni è partito prima che Maria telefonasse.
        Gianni left before Maria called(SUBJ)

(ii)   Gianni è partito dopo che Maria ebbe telefonato.
        Gianni left after Maria had(IND) called

In the first case, there is an existential quantification – namely, there is at least one episode of Gianni's leaving, before Maria's call. In the second case, there is a universal quantification: every relevant episode of Gianni's leaving is located after Maria's call. Independently of the specific account for these cases, however, the subjunctive/indicative distinction is not due to Sequence of Tense phenomena, but to other factors.

[50]. Huang & Liu (2001) discuss a very similar paradigm for *ziji* when in subject position.

antecedent and the position can be successfully saturated. Recall that this property occurs cross-linguistically and is also found in Chinese.

Consider now the following case, which further supports the view I sketched so far:

(101)   [$_{S1}$Mario$_t$ credeva [$_{S''}$che il fatto [$_{S3}$che la propria$_{i/j}$ figlia fosse andata in campeggio da sola] preoccupasse molto Gianni$_j$]]
Mario believed that the fact that self's daughter had(SUBJ) left for the camp by herself worried(SUBJ) Gianni a lot

In this case the embedded clause S3 features a psych-verb and a LDA embedded in the subject. As predicted, both *Mario* and *Gianni* are possible antecedents for *proprio* (self's). Again, this follows from the fact that the process applies recursively and every nominal element meeting the requirements qualifies as a possible antecedent. *Gianni* is the bearer of the attitude with respect to the embedded subject clause S3; *Mario* is available as a (local) antecedent for the LDA. Finally, consider the following example:

(102)   [$_{S1}$Quel dittatore$_i$ credeva [$_{S2}$che il primo ministro$_j$ preoccupasse molto [$_{S3}$chiunque ambisse al proprio$_{i/*j}$ incarico]]
That dictator thought that the Prime Minister worried(SUBJ) a lot everyone who whished(SUBJ) self's office

I discussed above why the equivalent of S2 is ungrammatical (see ex. 97). *The prime minister*, in fact, is not the bearer of the attitude and does not qualify as a suitable antecedent for the LDA in S3. However, since the process applies recursively until the event is evaluated with respect to the utterance one, the superordinate subject, *that dictator*, does qualify, being the bearer of the attitude with respect to S2.[51]

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[51].   It could also be the case that it qualifies by virtue of being a local antecedent, once the superordinate TP is marked as an unsaturated phrase. Here I'll leave the question open. I hope that further investigation of the subject might provide a better insight of the question.

4. Chinese *ziji*

4.1. On the Chinese SoT

In this section, I'll consider the predictions of the theory I sketched, when applied to Chinese.

In Chinese, SOT has very different properties with respect to Italian and English. In the first place, Chinese lacks of a morphological device for marking tense, whereas it uses several aspectual morphemes, which bear on the temporal interpretation only derivatively. However, trivially, in complex sentences the various events are located with respect to each other exactly as in Italian and English. As pointed out in Lin (2003, p. 282), the temporal reference of Chinese subordinate clauses largely depends on the semantics of the matrix verb. The relation can be fully determined on principled grounds, as for instance in the following cases:[52]

(103)   Wo kanijan ta da Lisi   (Lin's ex.36)
         I see he hit Lisi
         I saw him hit Lisi

Due to the peculiar semantics of the perception verbs – a general property across languages, and perhaps a cognitive constraint – the event of hitting must overlap the seeing. This piece of evidence would be the same in all languages. The author goes on by saying that when the temporal constraint of the matrix clause is not *a priori* defined, the temporal location of the embedded event is left undetermined (p. 283-284). Let me consider more closely the following example:

(104)   Zhangsan shuo/renwei Lisi hui chuli   (Lin's ex. 39c)
         Zhangsan say/think Lisi will handle
         Zhangsan said/thinks Lisi would/will handle it[53]

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[52].   I thank Audrey Li for providing the relevant reference.

[53].   For completeness, I must say that Lin (p.c.) does not fully agree with this conclusion. However, it does not seem to me to be contradicted by anything he proposes in his work, or by anything I'm aware of about the Chinese language. Therefore, I'll pursue it, since it leads to correct predictions.

In the discussion of this example, Lin points out that the eventuality of the embedded clause is located after the eventuality in the main one, by means of the auxiliary *hui* expressing futurity. However, the location of the embedded clause with respect to utterance time in not specified. In Giorgi & Pianesi 's terms, this fact can be interpreted by saying that the embedded eventuality is anchored to the superordinate one, but that – as in many other languages, such as for instance Russian and Japanese – there is no anchoring to the utterance time, hence no DAR. Therefore, the sentence is predicted to be equivalent both to the sentence with the *will*-future and to the one with the *would*-future, as shown in the translation.

Consider now the following example:

(105)   Zhangsan shuo/renwei Lisi zai xizao   (Lin's ex. 39b)
          Zhangsan say/think Lisi Prog take-a-bath
          Zhangsan said/thinks Lisi was/is taking a bath

In this example there is an aspectual marker – *zai*, glossed as a progressive marker – in the embedded clause, to the effect that the embedded eventuality must be interpreted as overlapping the time of the matrix one. However, its relation with the utterance time is again not specified. In fact, the glosses show that it can give rise either to an interpretation in which the embedded event is understood as simultaneous only to the matrix one, or to an interpretation in which it is interpreted as simultaneous both with the matrix and with the utterance event, analogously to the example in (109).[54]

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[54]. Lin (ex.(39b)) also discusses the following case:

(i)   Zhangsan shuo/renweui Lisi shuo huang
        Zhangsan say/think Lisi tell lie
        Zhangsan said/thinks that Lisi told lies

The English glosses imply that the embedded verb is interpreted as a past with respect to the one of the matrix clause. This is in fact the interpretation we would expect coherently with the other cases: the embedded eventuality is anchored to the main one, irrespectively of the utterance time. In this case however, the difference with the DAR languages is not evident, because the DAR and non-DAR strategies both give the same result. The author however (p.284) comments this sentence by saying that the embedded clause is interpreted as if it were unembedded. If that were the case, the sentence should also be compatible with an interpretation in which the embedded eventuality, though still interpreted as a

Given this evidence, it seems reasonable to conclude, therefore, that anchoring to the main verb obtains in all cases. This is predicted by a proposal such as the one illustrated in Giorgi & Pianesi (2001). The authors in fact claim that the anchoring of the eventuality of a complement clause to the superordinate one is an obligatory requirement of Universal Grammar. On the other hand, Chinese is a non-DAR language and the relation of the eventuality in the embedded clause with utterance time is not automatically provided.

The prediction of my proposal applied to Chinese is therefore the following: no blocking effect due to the DAR is expected, given that there is no codified DAR in the language. However, we should expect blocking phenomena whenever the speaker is represented in the embedded clause, as a bearer of an attitude toward its propositional content, in a way *analogous* to the DAR.

4.2. The hypothesis applied to *ziji*[55]

In this section I'm going to check these predictions. Several scholars studied the properties of *ziji* and many resorted to the notion of *logophoricity* to explain its distribution, see among the others, Cole, Hermon & Lee (2001), Huang & Liu (2001); Pan (2001); Pollard & Xue (1998; 2001). The relevant facts I'm going to consider can be summarized as follows.

Blocking effect in Chinese:
  Chinese does not have DAR effects, hence the speaker's coordinates do not appear in the subordinate clause to satisfy anchoring conditions, as on the contrary they do in Italian and English.
  Some phrases can introduce the speaker's coordinate, by referring to the utterance context itself.

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past, is located in the future with respect to the main one: Zhangsan said that Lisi would tell lies. The glosses however seem to exclude such a possibility.

[55]. All the Chinese data are taken from the literature. Where the authors point out that the evidence is controversial, I'll signal it and report their opinions.

Whenever the speaker's coordinate is introduced, the extended verbal projection must saturate all positions, in a way exactly parallel to the one observed for Italian – and in general for DAR languages.

Chinese reflexive *ziji* is not marked for person and number, in that it is compatible with first, second and third person antecedent, both in the singular and in the plural.
As discussed in section 1.2.1, Huang & Liu (2001, p.161) point out with respect to the blocking effect, that a person asymmetry exists such that a first/second-person pronoun may block a third-person LD antecedent, but not the other way round. I'll reproduce here the relevant examples:

(106)   Zhangsan$_i$ danxin wo/ni$_j$ hui piping ziji$_{*i/j}$
         Zhangsan is worried that I/you might criticize myself/yourself/*him

                                        (Huang & Liu, ex. 11a; cf. ex. 13 above)

(107)   Wo$_i$ danxin Zhangsan$_j$ hui piping ziji$_{*i/j}$
         I am worried that Zhangsan will criticize me/himself

                                        (Huang & Liu, ex. 11b, cf. ex. 14 above)

They also point out that LD *ziji* may be blocked by non-subjects, which are *not* potential antecedents:

(108)   Zhangsan$_i$ gaosu wo$_j$ Lisi$_k$ hen ziji$_{*i/*j/k}$
         Zhangsan told me that Lisi hated self   (Huang & Liu ex. 8a, cf. ex. 15 above)

Moreover, a deictically identified third-person NP does induce blocking, as illustrated by the following case:

(109)   Zhangsan shuo DEICTIC-ta qipian-le ziji
         Zhangsan said that she/he cheated himself/herself   (Huang & Liu ex. 12)

Furthermore, in case of multiple occurrences of *ziji* even some third person NPs may induce blocking effects (see the discussion in Huang & Liu, pp. 161):

(110)   ZS renwei LS zhidao WW ba ziji$_1$ de shuo song-gei le ziji$_2$ de pengyou
        ZS think LS know WW BA self DE book give-to perf self DE friend

                                                                (Huang & Liu ex. 13)

        'ZS thinks that LS knows that WW gave self's book to self's friend'

The list of the possible and impossible interpretations is as follows:

(111)   Ziji$_1$ = ziji$_2$ = WW/LS/ZS
(112)   Ziji$_1$ = WW, ziji$_2$ =LS
(113)   Ziji$_1$ = WW, ziji$_2$ = ZS
(114)   Ziji$_1$ = ZS, ziji$_2$ =WW
(115)   Ziji$_1$ = LS, ziji$_2$ = WW
(116)   *Ziji$_1$ = ZS, ziji$_2$ = LS
(117)   *Ziji$_1$ = LS, ziji$_2$ = ZS

Finally, explicit time expressions can be used to indicate the sequence of events – namely the ordering of the events of the complement and superordinate clause with respect to each other. As pointed out by Huang and Liu (2001, p. 181), these temporal expressions interact in an interesting way with LD binding. Consider the following example:

(118)   ? Zhangsan$_i$ kuanjiang-guo houlai sha si ziji$_i$ de naxie ren$_j$
         Zhangsan has praised those persons who **later** killed him

                                                                (Huang & Liu, ex. 107)

(119)   * Zhangsan$_i$ shang xingqi zanmei-le jin zao piping ziji$_i$ de nei-ge ren
         Zhangsan praised last week the person who criticized self **this morning**

                                                                (Huang & Liu ex. 109)

Later is an anaphoric temporal expression, given that it must refer back to a time already given in the sentence. The expression *this morning*, on the contrary, is an indexical, given that its location depends solely on the temporal coordinate of the speaker.
In all the unacceptable cases reported above, the utterance context – i.e., the speaker's coordinate – appears in the embedded clause.

The theory I proposed for DAR languages, such as Italian, can predict these facts as well. The obvious difference is that in Chinese, the utterance event cannot be introduced by means of verbal morphology – since there is no such thing in the language. It is introduced by explicitly mentioning the speaker's temporal coordinate, or by referring to the utterance event itself by means of indexical temporal expressions (cf. ex. 119). However, the effects on binding are exactly the same. Let me illustrate the examples one by one.

In example (106) the anaphor can only refer to the first/second person local subject, and cannot refer back to the matrix one, though this is an acceptable option in (107).

In (106) the speaker's coordinate intervenes in the interpretation of the embedded clause through the presence of the first/second pronoun. The LDA interpretation strategy prescribes that the domain in which the antecedent has to be found cannot extend beyond the clause where such coordinate appears. Therefore, even if in Chinese there is no indicative/subjunctive distinction, the anaphor is blocked in the embedded clause in (106), but not in (107).

The *mild* blocking effect of Italian, which I briefly mentioned in section 1.3.1, exx. (46)-(47), is due to the same property: the speaker's coordinate intervenes in the interpretation of the embedded clause, and therefore the domain should in principle be closed. On the other hand, in Italian-like languages – where tense is morphologically encoded – the syntax forces movement of the temporal features to the complementizer layer and the domain cannot be closed before such a movement is accomplished. Therefore the nominal blocking effect of Italian is only an interface phenomenon and not a truly syntactical one.[56]

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[56]. Notice that, trivially, there is no DAR effect in a case like the following:

(i)   Gianni crede che io sia innamorato di Maria.
        Gianni believes that I am(SUBJ) in love with Maria

If a DAR effect would arise, we should expect the sentence in (i) to have the same marginal status as that in the text. However, even if in (i) the utterance context must enter the interpretation, recall that in Italian – and Italian-like languages – in this case there is no *syntactic* representation of the *temporal* coordinates of the speaker, given that their appearance must be codified in the morphosyntax, in the verbal verbal morphology. In other words, the speaker's coordinates are available only for nominal reference, but not for the temporal one.

Moreover in these cases, as discussed by Huang and Liu (2001) for Chinese, the blocking effect is enforced even if the first or second person pronouns are not possible antecedents. What determines the blocking effect, according to my hypothesis, in fact, is not the mere mismatch of features, but the fact that the speaker's coordinate has to be taken into account in the interpretive process and therefore it blocks the LDA.

Going back to the discussion of the Chinese cases, the case in which the blocking effect is induced by a deictic identification of an intervening pronoun, as in example (109), is also accounted for. In this case too, the speaker's coordinate is forced to intervene to assign the correct interpretation to the embedded clause.

Furthermore, it can be argued that the condition on blocking is an *if and only if* condition on anaphor interpretation. In other words, reference to the utterance event closes the domain and therefore forces the LDAs to be interpreted. On the other hand, if a LDAs is interpreted, the domain is closed and cannot be reopened for the sake of anaphora interpretation.

The multiple anaphor case – cf. ex. (110) – can be accounted for by claiming that once the domain is closed, it cannot be reopened. The ungrammatical interpretations, (116) and (117), are those in which neither anaphor is interpreted locally – i.e., with WW as an antecedent – hence, they are both long distance bound: Their binding domains, however, are supposed to be different. In the interpretation (122) $ziji_2$ picks up as an antecedent the intermediate subject *Lisi*, requiring therefore the domain to be closed at that point. However, in order to interpret $ziji_1$ as the main subject *Zhangsan*, the domain has to be extended up to the main clause. As a consequence, a conflict arises and the interpretation is not admitted. The same happens in (117), for the opposite values of antecedents.

Consider now examples (118) and (119). In these cases, a temporal adverb appears in the embedded clause. As expected, the deictic adverb, *this morning*, defines the domain and blocks the anaphor. Recall that Chinese lacks morphological tense. A deictic adverb, in such a language, therefore, requires that in order for the embedded eventuality to be located with respect to the utterance event, all positions should be saturated. Therefore, the anaphor in (119) cannot pick up the main subject as an antecedent. Such an antecedent is available, on the contrary, for the anaphor in (118).

In Italian, the presence of temporal adverb does not affect the distribution of LDAs. Consider for instance the following case:

(120)   Quell'artista_i spera che qualcuno compri le proprie_i opere prima di stasera.
        That artists hopes that somebody buy(SUBJ) self's works before tonight

The presence of the deictic time adverb, *before tonight*, does not block the LDA from referring back to the higher subject *that artist*. Again, in Italian – a language with morphological temporal marking – the interpretation of the adverb does not take place directly, but it is always mediated by the tense itself. Therefore if the tense does not require the speaker's coordinate to be represented in the clause, the binding of the anaphor can proceed successfully. See also the discussion summarized in section 2.3. above on DAR contexts and anaphoric temporal locutions.

Finally, when there is no antecedent around, in Chinese the anaphor has to refer to the speaker:

(121)   Zhe-ge xiangfa, chule ziji, zhiyou san-ge ren zancheng. (Huang &Liu's ex.36)
         This-CL idea, besides self only three people agree
         As for this idea, beside myself, only three people agree

The speaker is the bearer of the attitude for the matrix clause, therefore in Chinese, where the reflexive is not marked for person, it qualifies as a possible antecedent. The same does not hold in Italian, where the speaker triggers first person agreement.

Let me briefly consider sub-command. Huang & Liu point out that sub-command is possible with clause-bound *ziji* and does not give rise to blocking effects:

(122)   Zhangsan$_i$ de xin gen wo tandao-le ziji$_i$ (Huang & Liu's ex. 78)
         Zhangsan DE letter to me discuss-Perf self
         Zhangsan's$_i$ letter discussed him$_i$ with me

The example in (122) contrasts with the following one:

(123)   *Zhangsan$_i$ de shibai biaoshi tamen dui ziji$_i$ mei xinxin   (Huang & Liu ex. 79)
         Zhangsan DE failure indicate that they to self no confidence
         Zhangsan's failure indicates that they have no confidence in him

From these examples the authors conclude that sub-command is not a property of LD binding. However, in a footnote to their paper, they remark the acceptability of LD binding in the following case:

(124)   Zhangsan$_i$ de baogao biaoshi tamen dui ziji$_i$ mei xinxin

                                                   (Huang &Liu, fn. (18) ex. i)

          Zhangsan DE report indicate that they to self no confidence

          Zhangsan's report indicates that they have no confidence in him

This contrast casts some doubts on their generalization – i.e., that sub-command is a property only of local binding. That Huang & Liu's generalization cannot be right seems also to be challenged by the Italian data I illustrated in section 1.2.1, exx. (22)-(23), reproduced here:

(125)   La propria$_t$ salute turba i sogni di Gianni$_t$

          Self's health disturbs Gianni's dream

(126)   Che la propria$_i$ figlia sia andata in campeggio da sola turba i sogni di Gianni$_i$

          That self's daughter went to camp by herself, disturbs Gianni' dreams a lot

In these cases sub-command seems to be possible. Consider now the following examples:

(127)   *La salute di Gianni$_i$ preoccupa molto la propria$_i$ moglie.

          Gianni's health worries self's wife a lot

(128)   *Che la figlia di Gianni$_i$ sia andata in campeggio da sola turba molto i propri$_i$ sogni.

          That Gianni's daughter went to camp by herself, disturbs self's dreams a lot

In these cases we obtain the reverse judgment: sub-command is not possible, both when the antecedent is local and when it is a LD one. Concluding, it seems that the generalization discussed by Huang & Liu needs to be somehow amended.

My proposal is that the possibility of taking a sub-commanding antecedent pertains to the LD strategy. Le me state the following generalization:

(129)   Sub-command is possible if the phrase in which the bearer of the attitude appears is not in agreement with the verb.

In Chinese, there would be no question about agreement, therefore sub-command is always possible. In (122) there is no blocking effect because the first person is a co-argument of the antecedent. According to my hypothesis, this is crucial, given that the blocking effect prevents the anaphor from finding an antecedent *further up* in the sentence, Therefore, there is no reason to expect the blocking effect to hold in (122). Moreover, (123) is ungrammatical because there is no way in which *Zhangsan* can be understood as the bearer of the attitude, contrasting in this with the grammatical (124).[57]

In Italian, sub-command is possible only with psych-verbs, because only in this case is the bearer of the attitude not in a phrase in agreement with the verb.

Why does agreement with the verb matter? A possible answer could be that if an agreement relation has been enforced between a phrase and the TP, then the ILF cannot access anymore sub-parts of the phrase. In other words, the phrase is closed and saturated and its internal components are no longer visible to the effect of the interpretation of the clause, hence for binding purposes.

4.3.   Some remarks on Japanese *zibun*

In this section I'm going to argue that some of the peculiarities of the distribution of the Japanese LDA *zibun* (self) can be traced back to the same *blocking effect* I have described in the previous pages. The problems connected with the distribution of this anaphoric item have been widely discussed in the literature, and I'm not going to provide a full account for all the facts which have been observed. However, I think it is worthwhile to make a couple of points which might be of interest for future research.[58]

There is no DAR in Japanese, as discussed in Ogihara (1996, 1999). Namely, this language belongs to Russian/Chinese groups, where an embedded present tense does not (necessarily) have to denote an eventuality holding at utterance time. Given this consideration, we expect that the relevant antecedent for the anaphor has to be identified following strategies similar to those I discussed for Chinese. In this language as well, in fact, the representation of the speaker coordinate is not enforced because of the

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[57].   Notice also that the explanation provided by the authors though expressed in terms of logophoricity is very close to the analysis presented here.

[58].   See, among the others, Kuno (1972; 1987), Sportiche (1986), Ueda (1986) and for a more recent analysis, Oshima (2004).

necessity of assigning the correct temporal interpretation, but its presence is due by other factors.

Kuno (1987), Sells (1987) and Oshima (2004) observe that in some cases speaker-evaluative expressions, such as *that fool* can be attributed not only to the speaker, but also to the subject of the saying predicate, when a speech act is involved (From Oshima, ex 38):

(130)   Takashi wa Taro ni baka-no/itosii Yoshiko ga Masao o oikakemawasite-i-ru to it-ta

Takashi top Taro dat fool/beloved Yoshiko nom Masao acc chase around-asp-pres Comp say-past

'Takashi told Taro that that fool/beloved Yoshiko was following Masao'

The expression fool/beloved can either be attributed to the speaker, or to Takashi – i.e., the subject of the saying predicate. Consider now the interaction with the distribution of *zibun* (from Oshima, ex. 39):

(131)   Takashi$_i$ wa Taro ni baka-no/itosii Yoshiko ga zibun$_i$ no musuko o oikakemawasite-i-ru to it-ta

Takashi$_i$ top Taro dat fool/beloved Yoshiko nom self$_i$ gen son acc chase around-asp-pres Comp say-past

'Takashi$_i$ told Taro that that fool/beloved Yoshiko was following self$_i$'s son'

In a sentence with the long distance anaphor *zibun*, the speaker evaluative clause cannot be interpreted as due to the speaker, but can only be attributed to the main subject *Takashi*. This fact is reminiscent of the pattern I discussed with respect to the Chinese *ziji*. When the representation of the speaker is enforced in a certain clause, then all positions must be saturated. Therefore, in this case the account I proposed above seems to make the correct prediction when extended to *zibun* as well.

There is another phenomenon peculiar to Japanese, which has been discussed by many scholars, namely, the role of *empathy* in anaphora interpretation. The facts are very complex and not totally uncontroversial, but I would like to point out a consequence of my proposal, which might be verified in future research.

As pointed out originally by Kuno (1972), Japanese has several devices for representing the point of view from which a certain fact is described. A typical case is provided by the verbs used for expressing the concept of *giving*. The event can be described from the

point of view of the giver – by means of the verb *yaru* – or from the point of view of the receiver – by means of the verb *kureru*. Notice that in English, and Italian as well, the two points of view are lexicalized differently – as the verb *give* and the verb *receive* respectively. However in Japanese, contrary to these other languages, the structure of the sentence does not vary – i.e. the giver is always expressed as the subject and the receiver always appears in the dative.[59]

Consider for instance the following examples (from Kuno, 1987, p.246, see also the discussion in Oshima 2004):

(132)   **Taro** wa Hanako ni okane o **yar**-u
        Taro top Hanako dat money acc give-pres

(133)   Taro wa **Hanako** ni okane o **kure**-ru
        Taro top Hanako dat money acc give-pres
        'Taro gives money to Hanako'

In example (132) the point of view from which the event is described in Taro's, in (133) it is Hanako's. As Kuno puts it, the speaker is *empathizing* either with the giver or with the receiver. Interestingly, if a first person pronoun is present, the verbal form must be the one taking the point of view of the speaker. I.e., if the speaker appears in the sentence as the giver, the selected form must be *yaru*. If the speaker appears as the receiver the selected form must be *kureru*.

This property interacts with the distribution of *zibun* in the following way: the antecedent of *zibun* must be the person from whose point of view the event is described (From Oshima 2004, exx. 17 a - b):

(134)   Taro$_i$ wa Hanako ga zibun$_i$ ni kasite-**kure**-ta okane o tukatte-sima-ta
        Taro top Hanako nom self dat lending-give-past money acc spending-end up-past
        'Taro spent all the money that Hanako had lent to him'

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[59].   I'm simplifying the facts in several ways. Importantly, the two verbs can also work as so-called *supporting verbs*, or light verbs, and enter in complex lexical formations, giving rise to more or less the same range of effects. They also enter in benefactive/malefactive constructions.

(135)   *Taro_i wa Hanako ga zibun_i ni kasite-**yat**-ta okane o tukatte-sima-ta

Taro top Hanako nom self dat lending-give-past money acc spending-end up-

past

'Taro spent all the money that Hanako had lent to him'

In example (134) *kureru* identifies the dative as the prominent argument – i.e., *Taro*. Accordingly, *Taro* must be selected as the antecedent of the anaphor. If the counterpart *yaru* is used – which identifies *Hanako* as the prominent argument – the relation between *zibun* and *Taro* can no longer be established.

Tentatively, the following explanation could be proposed. Suppose first that these verbs in Japanese introduce an implicit argument, along the lines of Higginbotham (1987), as in the case of English nominals such as for instance *self-inflicted wound*, or *self-starting motor*. Such as implicit argument – which in Japanese, as remarked in the literature, can in certain cases also be used to refer to a beneficiary – has the same status as the LDA, in that it can be considered as an unsaturated position.

If this proposal is correct, then we can reduce this phenomenon to the case of multiple occurrences of *ziji* analyzed above. The domain for the overt LDA and for the implicit one must be the same. If, for instance, in a sentence like the one in (135), the verb *yaru* refers to *Hanako* – i.e., *Hanako* binds the implicit anaphor – then *zibun* cannot select an antecedent in the main clause. In example (134), on the contrary, the two unsaturated positions are both saturated by the subject of the main clause, *Taro*.[60]

5. Conclusions and speculations

One of the consequences of this work is the reversing of the perspective about the feature specification of anaphors.[61] From the point of view outlined here, in fact, it follows that it is not the case that anaphors need an antecedent because they aren't specified enough, but on the contrary, that they aren't enough specified because they

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[60].   Saito (pc) suggested that the multiple anaphor effect found in Chinese in exx. (110) above, is also found in Japanese.

[61].   See Reuland & Sigurjónsdóttir (1997) and Reuland (2001b) for a discussion of this topic with respect to the Icelandic anaphor *sig*.

need an antecedent. Namely, they represent the way in which languages mark unsaturated positions.[62]

Saturation by identification is a local process, to be attained under c-command. The only unsaturated position that can stay empty is the subject of infinitival clauses – PRO – because it is not endowed with case. As it is possible to see, the theory of LDAs that I have sketched here permits to maintain quite a conservative view about some very basic questions such as the nature of empty positions and the locality of syntactic relations. This is a welcome result, since it permits to achieve new insights on the basis of minimal adjustments.

The first-personal effect, or *de se* reading, immediately follows from this framework because the binding of the anaphor is *not* a coreference process. Namely, the anaphor is not an item denoting something that can have independent properties, but is simply a marker for an unsaturated position. The LDA does not *refer to* an antecedent, but is *identified with* the antecedent – the anaphor and the antecedent are the very same thing – and whenever possible and natural, the LD must be first personal, since it could be nothing else. Let's go back to the example discussed by Chierchia (1989), reproduced here:

(136)   Gianni$_i$ pensa che i propri$_i$ pantaloni siano in fiamme.
         Gianni thinks that self's pants are on fire

This sentence contains an unsaturated position marked by the anaphor, the position is later identified with *Gianni*.[63]

The notion of logophoric anaphor/pronoun has been widely discussed in the literature, and I considered here only some aspects of it. I tried to show that some traditionally

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[62]. Notice that Chierchia (1989) suggests that *proprio* (self's) might be taken to be the lexical counterpart of PRO, as far as the *de se* interpretation is concerned. My opinion is that his perspective is correct, though it should be stated in much more general terms and doesn't simply holds of the *de se* or first-personal reading.

[63]. On the other hand, if the context does not license a first-personal reading, in principle, there is no reason for the anaphor to be ruled out, as I pointed out in the discussion of examples (37) and (38). Some speakers however, might have a strong preference for the anaphor to be used exactly in the contexts in which the effect obtains, due to a *specialization* effect. The weakness of the effect, however, as compared to the real violations, exemplified by (39), suggests that my line of thought is correct.

logophoric antecedents for LDAs are actually sentential, local, ones. A full discussion of the logophoric effect would lead me too far away from the main topic of this work. Among the other problems, is the lack of general consensus on the notion itself, so that for some linguists it only refers to pronouns of some African languages (see Hagège, 1974; Clements, 1975; Koopman & Sportiche, 1989) which are specialized for referring to the speaker, or the hearer, in certain contexts. For other scholars, it basically applies to everything which does not follow from principle A of the binding theory, for others it refers to discourse-bound reflexive pronouns, for others, finally, to combinations thereof.[64]

I would like however, to add a few words on some puzzling cases of logophoric anaphors, which take an antecedent in the discourse and not in the sentence, at least at first sight.

I already discussed one of such cases, namely, the discourse-bound *ziji* – see section 4 above – which can identify the speaker. I proposed that that case can be reduced to a simple case of local binding, given that the speaker is – and must be – represented in the clause at the interface level.[65]

I would like to consider now an interesting and rather puzzling difference between Italian and English. There are two classes of cases in which the English clause bound anaphor turns out to be non locally bound, at least apparently. On one hand, there are the so-called emphatic reflexives, studied by Keenan (1988, but see also Safir, 1992) and further analyzed by Zribi-Hertz (1989). On the other, there are the *narrative* reflexives, see Zribi-Hertz (1989, but see also Kuno 1972). Zribi-Hertz (1989) provides a wide variety of examples in which the *self*-anaphors – such as *himself* and *herself* – of the English language appear to be non clause bound, and often not even sentence bound, in that they seem to take an antecedent in the discourse. I'll give here some of the relevant examples, in order to illustrate the points in question:

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[64]. Interestingly, Koopman & Sportiche (1989) argue that logophoric pronouns in Abe should be accounted for as logical variables and that presumably this holds true of all so-called logophoric items. I'm sympathetic with their conclusions, even if the domain of investigation is very different from mine and the specific proposals are based on quite different assumptions.

[65]. On the analysis of *ziji* as a logophor and relevant discussion of the different notions of *logophoricity* see Pan (1997; 2001); Pollard & Xue (2001); Huang & Liu (2001). In particular, Pan (2001) points out that according to his notion of logophoricity, *ziji* is *not* a logophoric anaphor.

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(137) These men$_i$ believe that Mary would never consider marrying a man less wealthy than themselves$_i$ (Safir, 1992, ex. 3a)

(138) Questi uomini$_i$ credono che Maria non prenderebbe mai in considerazione di sposare un uomo meno ricco di loro$_i$/ *se stessi$_i$

(139) Milton$_i$ warned Masha that she shouldn't trust anyone but/ other than/ except himself$_i$ (Safir, 1992, ex 4a)

(140) Milton$_i$ avvisò Masha che (lei) non avrebbe dovuto fidarsi di nessuno tranne che di lui$_i$/*se stesso$_i$

(141) Her acquaintance in Northam, she$_i$ thought,would have considered such affection unnatural, and probably perverted,if not wholly insincere, and there was something in herself$_i$ that could not help but suspect it (…)   (Zribi-Hertz,1989, ex. 43a; text by: M. Drabble, 1967, Jerusalem the golden, Penguin, p.117)

(142) Le sue conoscenze a Northam, pro$_i$ pensò, avrebbero considerato il suo attaccamento innaturale […], e c'era qualcosa dentro di lei$_i$ /*se stessa$_i$, che non poteva fare a meno di sospettarlo

(143) And that was exactly it, he$_i$ thought, he$_i$ really didn't care too much what happened to himself$_i$ (Zribi-Hertz, 1989, ex. 48a; text by: P. Highsmith, 1973, The glass cell, Penguin, p.179)

(144) Ed era proprio così, pro$_i$ pensò, pro$_i$ non gli importava davvero troppo di cosa gli$_i$ sarebbe successo/ *cosa sarebbe successo a se stesso$_i$

Interestingly, the Italian *stesso*(same) anaphors – such as *se stesso* (himself) and *se stessa* (herself) cannot appear in these contexts, neither in the emphatic, nor in the narrative ones, as shown by the translations given above.

This fact is unexpected, because, in the local domain, Italian reflexives have the same distribution as the English ones. In other words, Italian clause bound anaphors are always really clause bound, whereas English clause bound ones are also allowed in a variety of other contexts.

Safir (1996) first investigated the question of the systematic differences between *same*-anaphors – in Italian and French, among the others –and *self*-anaphors – in English and Germanic languages in general.

On the basis of evidence totally independent from the considerations discussed in this work, he proposed that *same* anaphors can't denote individuals, whereas *self* anaphors can. Presumably the explanation of this cross-linguistic differences I just outlined above must be looked for following Safir's perspective. Namely, only anaphors which can denote an individual are acceptable in the LD, either emphatic or discourse, usage. This seems to be an important generalization, because it points to the conclusion that the interpretative properties, and namely, the interface level, determine the possible range of binding phenomena.

Let's consider finally the cases discussed by Zribi-Hertz and reported above in (141) and (143). The antecedent of the anaphors is obviously not the speaker – in these cases, the writer. In both examples the antecedent is the person whose thoughts are reported – as shown clearly by the expressions *she thought* and *he thought* in (141) and (143) respectively. It is a well-studied fact – see among the others Zucchi (2001), Bonomi & Zucchi (2001), Schlenker (2004), and references cited there – that in narrative contexts anchoring phenomena do not proceed from the perspective of the speaker/writer, but from a different, text-internal, perspective. It is reasonable to hypothesize therefore, that in these cases, the *thinker* replaces the speaker and that therefore both temporal anchoring and anaphor binding exploit the thinker's coordinate, instead of the speaker's ones. If this consideration is correct, then many of these cases could be accounted for by the proposal we argued for in this work.[66]

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[66]. Tancredi (1997) explores a similar possibility with respect to the interpretation of the English third person pronoun, in cases such as the following:

(i)   Now he would be all alone (frowned Chris)   (Tancredi, 1997, ex. 4)

He proposes that the reference of the third person pronoun can be semantically determined via an *Agent* parameter – where the agent is the individual whose thought is expressed by the relevant expression. See also Schlenker (2003), and in particular Schlenker (2004) for an in-depth analysis of these contexts.

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Case assignment in the pseudo-partitives of Standard Albanian and Arbëresh.[1]
A case for micro-variation

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0. Introduction

Pseudo-partitive constructions have always been a challenge for linguistic research since earlier studies in generative grammar (cf. Selkirk (1977), Jackendoff 1977)). In this paper we deal with a specific point regarding these constructions, namely case assignment and/or case agreement between the two nouns. We do this on the empirical basis of two very near and poorly studied languages, namely standard Albanian and the Arbëresh variety spoken in Southern Italy.[2] We believe that the case assignment/sharing found in the two Albanian varieties is directly relevant to decide about general issues arising with these constructions, namely headedness and structural configuration.

The paper is organised as follows. Section 1 presents the data and highlights two different ways to realise the pseudo-partitive semantics. Section 2 briefly reviews the case system of Albanian and contrasts it with the less rich system of Arbëresh. In section 3, we observe the behaviour of the two different pseudo-partitive constructions in oblique case assigning contexts. In section 4, we concentrate on the occurrence of modifiers in these constructions, with unexpected results. In section 5, we sketch a

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proposal. For the sake of space, we dispense with a review of previous approaches since they are quite numerous and well known. For a recent, general discussion we refer to Vos (1999) and Stavrou (2003).

1. The data

Both Albanian and Arbëresh have two ways of expressing the part-whole or the quantity-whole relation. One way is to merge the noun referring to quantity and the noun referring to the substance as two adjacent nominals. The other way is to connect the quantity noun and the noun referring to the substance with the preposition *me* ("with"). Following the generative tradition we call the first "pseudo-partitive "[3] and the second "partitive" construction. The examples are given in (1)-(2) and in (3)-(4):

(1)   a. një shishe verë   (Albanian)
      b. një butijë verë   (Arbëresh)
           a bottle wine

(2)   a. një tufë lulesh   (Albanian)
      b. një macë lule   (Arbëresh)
           a bunch flowers

(3)   a. një shishe me verë   (Albanian)
      b. një butijë me verë   (Arbëresh)
           a bottle with wine

(4)   a. një tufë me lule   (Albanian)
      b. një macë me lule   (Arbëresh)
           a bunch with flowers

As is clear from a first contrast between (1a) and (2a), case morphology on the second noun differs in Standard Albanian according to the quantity noun. In (1a) the case on *verë* is the same as that on *shishe*, namely nominative/accusative, while in (2a) the case

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[3].   In Van Riemsdijk (1998) and Vos (1999) these structures are called Direct Partitive Constructions.

on *lulesh* is ablative. Arbëresh does not display such a contrast: the ablative form *luleve* (which exists in Arbëresh but occurs in other contexts) cannot appear in (2b).

As is typical of pseudo-partitive constructions across languages, the head of the construction is always ambiguous between a quantity reading and the object referring reading, as is clear from the examples in Albanian (5)-(6) and Arbëresh (7)-(8):

(5)   a.   Piva një shishe verë   (Albanian)
           I drank a bottle wine
      b.   Prisha një shishe verë
           I-broke a bottle wine

(6)   a.   Mblodha një tufë lulesh
           I picked a bunch flowers.ABL
      b.   Bëra një tufë lulesh
           I-made a bunch flowers.ABL

(7)   a.   Kam pitur një butijë verë   (Arbëresh)
           I have drunk a bottle wine
      b.   Kam çar një butijë verë
           I-have broken a bottle wine

(8)   a.   Kam mbjedhur një macë lule
           I have picked a bunch flowers
      b.   kam bon një macë lule
           I-have made a bunch flowers

The different case morphology on N2 can be either indication of a trivial difference in case assigning by different classes of N1 or the result of a different relationship between N1 and N2. We try to investigate these two alternative analyses and argue for the second one. In particular, we will argue that in structures like (1a) displaying case-sharing between N1 and N2, a sort of syntactic compound noun is created, whereas in structures like (2a) the relation between N1 and N2 differs. In these structures, the ablative case is assigned by a functional head ABL° to its complement N2, whereas its specifier is occupied by N1 after NP-movement.

For the sake of clarity, we first give a short review of the Albanian case morphology in the following section.

2.   A brief sketch on case morphology in Albanian

Albanian is a highly inflected language. Nouns are declined for number (singular and plural), gender (masculine and feminine) and case (nominative, genitive, dative, accusative, ablative). Each noun in Albanian has a double form: indefinite and definite. Definite forms are obtained by agglutination of the postpositive article. We will see them in turn.

(9) illustrates the indefinite declension:

(9)		singular	plural
NOM	(një) burrë 'a man'	(ca) burra 'some men'
ACC	(një) burrë	(ca) burra
GEN	i (një) burri	i (ca) burrave
DAT	(një) burri	(ca) burrave
ABL	(një) burri	(ca) burrash

As is apparent from (9), Nominative and Accusative have the same forms: we can refer to them as a unique Direct Case label. The same holds for Genitive/Dative/Ablative singular, and for Genitive and Dative plural. Ablative plural is realised by the affix *–sh*. Genitive differs from Dative in that it must be preceded by a proclitic article agreeing with the head of the embedding noun:

(10) a. një libër i një burri

a book the a man.GEN

b. I jap një libër një burri

[CL] give a book a man.DAT

In (10a) *i* is the genitival article which is obligatory and agrees with *libër* ("book"). The indefiniteness on the head noun does not interfere with the presence or absence of the genitival article. There is a relationship between the form of the article and the definiteness of the noun, parallel to what is found with adjectival articles cf. (13)-(16). Arbëresh indefinite declension is identical to the Albanian one, except that in Arbëresh plural ablative forms are identical to genitive and dative forms cf. *burrave*. In Arbëresh, it is therefore impossible to distinguish Dative from Ablative in any context.

Definite nouns in Albanian are characterised by the postposition of the definite article to the noun. The article forms are *-i* or *-u* for masculine singular; *-a* for feminine singular; and *-t* for plural nominative[4]:

(11)   singular

		masculine 1	masculine 2	feminine
	NOM	burri 'man-the'	shoku 'friend-the'	vajza 'girl-the'
	ACC	burrin	shokun	vajzën
	GEN	i burrit	i shokut	i vajzës
	DAT	burrit	shokut	vajzës
	ABL	burrit	shokut	vajzës

(12)   plural

	NOM	burrat 'men-the'	shokët 'friends-the'	vajzat 'girls-the'
	ACC	burrat	shokët	vajzat
	GEN	i burravet	i shokëvet	i vajzavet
	DAT	burravet	shokëvet	vajzavet
	ABL	burravet	shokëvet	vajzavet

Accusative singular is different from Nominative singular in the definite form, contrary to the indefinite declension seen in (9). Oblique cases are identical both in the singular and in the plural, differently from what was found in the indefinite plural declension in (9). The Arbëresh definite declension is identical to that of Albanian.

Albanian adjectives are obligatorily postnominal.[5] Adjectives can be divided into two different classes according to their morphological properties: pre-articulated adjectives like *i mirë* 'good' and articleless adjectives like *përtac* 'lazy'. The preposed article which characterises one class of Albanian adjectives agrees for gender, number, case and definiteness with the noun. In the indefinite declension, the adjectival article only has two forms, one for nominative singular (masc. *i*, fem (*e*) and one (*të*) for all other cases: (13)-(14):

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[4].   The article *-i* appears after consonants other than velars k, g, h, whereas the article *-u* appears after velars k, g, h and finally stressed.

[5].   Cfr. Giusti (1996), Dimitrova Vulchanova and Giusti (1998), Turano (2002).

(13)　　　　　indefinite masculine
　　　　　　　singular　　　　　　　　　　　　plural
　　NOM　një burrë **i** mire 'a good man'　　ca burra **të** mirë 'some good men'
　　ACC　një burrë **të** mirë　　　　　　　ca burra **të** mirë
　　GEN　i një burri **të** mirë　　　　　　i ca burrave **të** mirë
　　DAT　një burri **të** mirë　　　　　　　ca burrave **të** mirë
　　ABL　një burri **të** mirë　　　　　　　ca burrave **të** mirë

(14)　　　　　indefinite feminine
　　　　　　　singular　　　　　　　　　　　　plural
　　NOM　një vajzë **e** mire 'a good girl'　　ca vajza **të** mira 'some good girls'
　　ACC　një vajzë **të** mirë　　　　　　　ca vajzave **të** mira
　　GEN　i një vajze **të** mirë　　　　　　i ca vajzave **të** mira
　　DAT　një vajze **të** mirë　　　　　　　ca vajzave **të** mira
　　ABL　një vajze **të** mirë　　　　　　　ca vaizash **të** mira

In Arbëresh the singular adjectival article in masculine indefinite nouns is *i*, generalised for all cases, whereas in feminine indefinite nouns the singular adjectival article is *e*, generalised for all cases. In the plural it is identical with Albanian, both in masculine and feminine nouns. Notice that the adjective may also have a suffix which distinguishes feminine (*mira*) from masculine (*mirë*) in the plural.

Albanian definite masculine declension of the adjectival articles is identical to the indefinite one in the oblique cases, and in the nominative singular, but it differs from it in the other direct cases (*e mirë*) in (15) vs. (*të mirë*) in (13):

(15)　　　　　definite masculine
　　　　　　　singular　　　　　　　　　　　　plural
　　NOM　burri **i** mire 'the good man'　　burrat **e** mirë 'the good men'
　　ACC　burrin **e** mirë　　　　　　　　burrat **e** mirë
　　GEN　i burrit **të** mirë　　　　　　　i burravet **të** mirë
　　DAT　burrit **të** mirë　　　　　　　　burravet **të** mirë
　　ABL　burrit **të** mirë　　　　　　　　burravet **të** mirë

In Arbëresh the masculine adjectival article occurring in definite nouns may either be identical with Albanian or it can have *e* in the oblique cases.

Albanian definite feminine declension of adjectives is identical to the indefinite one in the oblique plural cases, and in the nominative singular, but it differs in the oblique singular cases (*së mirë* in (16) vs. *të mirë* in (14)) and in the plural direct cases (*e mira* in (16) vs. *të mira* in (14)):

(16)   definite feminine

	singular	plural
NOM	vajza **e** mire 'the good girl'	vajzat **e** mira 'the good girls'
ACC	vajzën **e** mirë	vajzat **e** mira
GEN	i vajzës **së** mirë	i vajzavet **të** mira
DAT	vajzës **së** mirë	vajzavet **të** mira
ABL	vajzës **së** mirë	vaizavet **të** mira

Arbëresh lacks the oblique singular form *së* and generalises *e* in the singular oblique cases. In the plural *e* may also covary with *të*.

3. Pseudo partitives and oblique case.

In (1)-(2) above repeated here as (17)-(18) we observe two possible constructions in Albanian which correspond to a single construction in Arbëresh:

(17) a. një shishe verë është mbi bankë   (Albanian)
        a bottle.NOM wine.DIR is on [the] table
   b. një tufë lulesh është mbi bankë
        a bunch.NOM flowers.ABL is on [the] table

(18) a. një butijë verë osht sipr bankës   (Arbëresh)
        a bottle.NOM wine.DIR is on the table
   b. një macë lule osht sipr bankës
        a bunch.NOM flowers.DIR is on the table

We call the construction in (17a) the "Direct pseudo-partitive", and the construction in (17b) the "Ablative pseudo-partitive".

The state of affairs in (17)-(18) presents two issues, one internal to the syntax of Albanian and one relevant to the comparative syntax of the two cognate languages:

- Is the different case on N2 in Albanian due to a different case assigning property of N1, or is it due to a different relationship between N1 and N2 instantiated by a different lexical status of N1 in the two constructions?
- If the latter is the case, as we argue, is the Arbëresh case in (18b) a covert parallel of (17b) or is it a perfect parallel of (18a)?

In order to answer these questions, we observe the case morphology that appears in the two types of constructions when they occur in oblique case assigning contexts. If the case on N2 remains invariable across the paradigm, we have evidence that N1 is the lexical head of the construction. If the case on N2 changes according to the case assigned to the whole construction, we show that the lexical head of the construction is not N1 but N2, or more precisely a complex constituent formed by N1 and N2. This section is devoted to presenting the data.

When Albanian pseudo-partitive constructions appear in an accusative case assigning context, the case on N2 remains the same we would find in nominative case assigning contexts or in isolation:

(19) a. piva një shishe verë
          I drank a bottle.ACC wine.DIR
      b. mblodha një tufë lulesh
          I picked a bunch.ACC flowers.ABL

When they appear in a position where genitive or other oblique case is assigned, oblique may occur on N2 in both kinds of pseudo-partitive constructions. Consider the paradigm in (20) which displays a genitive context and the one in (21) which displays a dative context:

(20) a. shija e një shisheje verë / vere
          the flavour of a bottle-GEN wine.DIR/OBL[6]

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[6]. The different cases appear to be related to different generations of speakers. Elder speakers prefer the Direct case while younger speakers prefer the oblique case. Our analysis, to be motivated below in the text is that no speaker spreads the oblique case of N1 onto N2. Elder speakers keep direct case on N2,

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  b. aroma e një tufe lulesh

   the smell of a bunch-GEN flowers.ABL

(21) a. vë çdo gotë pranë një shisheje vere / *verë

    [I] put a glass near a bootle.DAT of wine.OBL/*DIR

  b. I shtie ujë një tufe lulesh

    CL-DAT [I] put water a bunch.DAT flowers.ABL

In the "Direct pseudo-partitive" in (20a) and (21a), we must wonder whether the oblique case displayed by N2 is the genitive/dative that percolates from N1 onto N2, or whether it is an ablative thereby obliterating the difference between the two constructions. We must also inquire why the genitive context (20a) allows the direct case to remain on N2, while the dative assigning context forces N2 to display oblique case as in (21a). As for the "Ablative pseudo-partitive" in (20b) and (21b), we see that ablative case remains on N2 even when the whole construction is in a different oblique case, namely dative. Notice that ablative *lulesh* is different from genitive/dative *luleve*. This shows that there is no case sharing between N1 and N2 in the "Ablative pseudo-partitives".

In order to check whether this is also the case in the "Direct pseudo-partitive" (20a), we must imagine a bottle full of a countable substance e.g. *bizele* "peas", which allows us to distinguish between ablative (*bizelesh*) and genitive/dative (*bizeleve*):

(22) a. *shija e një shisheje bizeleve

    flavor-the a bottle.GEN peas.OBL

  b. shija e një shisheje bizelesh

    flavor-the a bottle.GEN peas.ABL

In (22a) we see that case sharing is not possible in the "Direct pseudo-partitive". Instead, we observe in (22b) that the "Direct pseudo-partitive" in an oblique case assigning context turns into an "Ablative pseudo-partitive".

Arbëresh pseudo-partitives are all realised as "Direct pseudo-partitives". We see an instance in nominative case in (23) and accusative case in (24):

while younger speakers turn the "direct pseudo partitive" into an "Ablative pseudo partitive" in oblique case assigning contexts.

(23) a. një butijë verë osht sipr bankës
          a bottle.NOM wine.DIR is on the table
      b. një macë lule osht sipr bankës
          a bunch.NOM flowers.DIR is on the table

(24) a. kam pitur një butij verë
          I have drunk a bottle.ACC wine.DIR
      b. kam mbjedhur një macë lule
          I have picked a bunch.ACC flowers.DIR

When the Arbëresh pseudo-partitive is assigned oblique case, N2 always remains with Direct case. Consider the paradigms in (25) which displays a genitive context and (26) which displays a dative context:

(25) a. sapuri i një butije verë
          the flavour a bottle.GEN wine.DIR
      b. ghurduri i një maci lule
          the smell of a bunch.GEN flowers.DIR

(26) a. voj një biker ndandiz një butije verë
          put a glass near a bottle.DAT wine.DIR
      b. voj fotografin ndandiz një maci lule
          [I] put the foto near to a bunch.DAT flowers.DIR

Up to this point we have observed that neither Albanian nor Arbëresh display a genuine instance of case sharing between N1 and N2 in any pseudo-partitive construction. What we have seen up to now is that Arbëresh has a very generalised instance of "Direct pseudo-partitive" which can appear in any case assigning context, while Albanian presents some instability. It can realise a pseudo-partitive in two different ways. In direct case assigning contexts, the choice between the two possibilities is determined by the lexical properties of N1. In oblique case assigning contexts, the "Direct pseudo-partitive" is ruled out (with minor variation as regards the genitive, cf. the variation in (20a) and the comment in fn.6). In these cases, the "Ablative pseudo-partitive" is generalised to all kinds of N1.

We propose that all cases of "Ablative pseudo-partitives", even those generalised to those N1s that do not display this construction in direct cases, have the same structure, namely the one that appears with nominal modifiers of the noun as in (27):

(27) a. një autor dramash   (Albanian)
          a author dramas.ABL
          "an author of dramas"
      b. një sallatë domatesh
          a salad tomatos.ABL
          "a tomato salad"
      c. një triko leshi
          a sweater wool.ABL
          "a wollen sweater"

Notice that this pattern is also found in Arbëresh in nominal modifiers, as in (28) even if crucially not in Arbëresh pseudo-partitives:

(28) a. një autor dramave   (Arbëresh)
          a author dramas.ABL
          "an author of dramas"
      b. një ncahat pumadori
          a salad tomatos.ABL
          "a tomato salad"
      c. një majë leshi
          a sweater wool.ABL
          "a wollen sweater"

Compare the different interpretation that we find in Arbëresh nominal modifications in (29) and the parallel partitive constructions in (30):

(29) a. një thes miahi
          a sack flower.ABL
          "a sack for flower"
      b. një tac qumështi
          a cup milk.ABL
          "a cup for milk"

(30) a. një thes miah
          a sack flower.DIR
          "a sack of flower"
      b. një tac qumësht
          a cup milk.DIR
          "a cup of milk"

In (29), the ablative N2 indicates the type of N1, not the content. In (30) we see the pseudo-partitive construction, where N2 indicate the content of N1.

The generalization here is that Arbëresh distinguishes clearly between a pseudo-partitive construction with a direct case on N2, and a modification structure with an ablative on N2. Albanian, on the contrary, is losing the "Direct pseudo-partitive" starting from certain classes of N1 and is generalizing the "Modification Construction" in the Ablative to all kinds of N1 in structurally complex cases, such as the oblique case assigning contexts and the merging of modifiers of both N1 and N2 which we are going to observe in section 4.

Before proceeding to a structural analysis of the two types of nominal constructions let us observe the distribution of adjectival modifiers in both.

4. The distribution of adjectives in pseudo partitive constructions.

Remind that descriptive adjectives are always postnominal both in Albanian and in Arbëresh. It is trivially expected that a modifier of N2 appears in the rightmost position in any kind of construction in both languages:[7]

(31) a. një shishe (*të kuqe) verë (të kuqe)   (Albanian)

---

[7]. Notice that N2 can be modified by different classes of descriptive adjectives, contrary to what Stavrou (2002) notices for Greek:

(i)   një shishe verë e mirë
       a bottle wine good

(ii)   ??ena bukali thavmasio krasi
       a bottle great wine

a bottle wine.DIR red.DIR

    b. një tufë (*të freskëta) lulesh (të freskëta)

        a bunch flowers.ABL fresh.ABL

(32) a. një butij (*të kuq) verë të kuq   (Arbëresh)

        a bottle wine.DIR red.DIR

    b. një macë (*frishki) lule frishki

        a bunch flowers.DIR. fresh.DIR

Despite this general parallelism, we find crucial differences between the two constructions in Albanian with respect to adjectival modification of N1. This is expected by the empirical generalization made above according to which the two pseudo-partitive structures are actually instances of different constructions.

In Albanian the modifiers of N1 may appear in two different positions. In the "Direct pseudo-partitive" the only position the adjective can occupy is after N2, as in (33). In the "Ablative pseudo-partitive", the adjective may appear either between the two nominals or after N2, as in (34). In both cases, the inflected adjective agrees with N1:

(33) a. një shishe verë **e vogël**

        a bottle wine small

    b. *një shishe **e vogël** verë

        "a small bottle of wine"

(34) a. një tufë lulesh **e madhe**

        a bunch flowers.ABL big

    b. një tufë **e madhe** lulesh

        "a big bunch of flowers"

In other Ablative structures we have the same results. An adjective following N1 can only modify and agree with N1 (35a), but an adjective following N2 can either modify and agree with N1 (35b) or with N2 (35c):

(35) a. një autor **i njohur** dramash

        a author.DIR famous-DIR dramas.ABL

    b. një autor dramash **i njohur**

        a author.DIR dramas.ABL famous.DIR

        "a famous author of dramas"

    c. një autor dramash **të njohura**

        a author.DIR dramas.ABL famous.ABL

        "an author of famous dramas"

Interestingly, the adjective modifying N1 must intervene between the two nouns if the content noun is not in Direct but in Ablative case, as in (36a):

(36) a. një shishe e vogël **vere**

          a bottle small wine.ABL

    b. *një shishe **vere** e vogël

(36) looks as if the direct pseudo-partitive turns into an Ablative construction, as we will argue in section 5.

This would be unexpected if the choice for the "Direct/Ablative pseudo-partitive" was open. But we have already noticed that nouns such as *shishe* enter the "Direct pseudo-partitive" as a default choice. What must be explained is why they can enter the "Ablative pseudo-partitive" in specific cases and why this alternative is not available in Arbëresh with any N1:

(37) a. *një butij **e vogle** vere   (Arbëresh)

          a bottle small wine.OBL

    b. *një macë **i madhë** luleve

         a bunch big flowers.OBL

Remind that Arbëresh only displays the "Direct pseudo-partitive". It can never turn it into an "Ablative pseudo-partitive", as shown in (37).

We have now sufficient empirical evidence to attempt a theoretical analysis in the following section.

5. A bare phrase structure analysis

The generalizations to be made so far are the following:

- the "Direct pseudo-partitive" behaves as if N1 and N2 form a constituent in both Albanian and Arbëresh.
- In Albanian, where the "Direct pseudo-partitive" is loosing in favour of the Ablative pseudo-partitive, the "Direct pseudo partitive" turns into an Ablative pseudo-partitive in two cases:
  - a) when the whole pseudo-partitive is assigned an oblique case (with a degree of optionality when genitive is assigned);
  - b) when N1 is modified by an immediately postnominal adjective.

The latter two conditions are only apparently heterogeneous; in fact, in both cases the numeration contains a higher number of items than what is allowed in a "Direct pseudo-partitive".

Let's assume that in the "Direct pseudo-partitive", N1 and N2 form a sort of "syntactic compound noun", we call it CN (complex noun). This assumption is corroborated by the observation that N2 cannot be referential, as shown in (38)-(39):

(38) a. *një shishe kjo/këtë verë   (Albanian)
        a bottle this.NOM/ACC wine
    b. *një shishe kjo/këtë
        a bottle this.NOM/ACC

(39) a. *një butij kjo/këta verë   (Arbëresh)
        a bottle this.NOM/ACC wine
    b. *një butij kjo
        a bottle this

If referentiality is expressed in the syntax by the projection of functional heads, we expect that N2 which is a subpart of the C(omplex) N(oun) cannot have such a projection, given that the CN is the syntactic compounding of two NPs. In order to project referential features on N2, Albanian and Arbëresh use the (prepositional) partitive constructions in (3)-(4), for example, (40)-(41) parallel to (38)-(39):

(40) a. një shishe me këtë verë   (Albanian)
          a bottle with this.ACC wine
      b. një shishe me këtë
          a bottle with this.ACC

(41) a. një butij me këta verë   (Arbëresh)
          a bottle with this.ACC wine
      b. një butij me këta
          a bottle with this

The formation of CN in the syntax blocks any movement of N1 across a modifying adjective leaving N2 in place, as represented in (42a), which derives the ungrammaticality of (33b). Instead, CN must move as a constituent, as represented in (42b), which corresponds to the grammatical sentence in (33a). CN can also move across a modifier of N2, as represented in (42c) thereby obtaining the contrast in (31a):

(42) a. *një [[_{N1}-shishe] X°[e vogël [[_{CN} [_{N1} ~~shishe~~][_{N2} verë]]]]
      b. një [[_{CN}shishe verë] X° [e vogël [_{CN} ~~[_{N1}shishe]~~~~[_{N2} verë]~~]]]
      c. një [[_{CN}shishe verë] X° [të kuqe [_{CN} ~~[_{N1}shishe]~~~~[_{N2} verë]~~]]]

We must assume that in (42), X° can copy the φ-features of either N1 or N2 thereby allowing the AP to agree with either of the two accordingly. However, the merging of two different functional heads copying the features of N1 and N2 is ruled out, as in (43):

(43) a. *një [[_{CN}shishe verë] Y° [e vogël [_{CN} ~~shishe verë~~] X° [të kuqe [_{CN} ~~[_{N1}shishe]~~
          ~~[_{N2} verë]~~]]]
      b. *një [[_{CN}shishe verë] Y° [të kuqe [_{CN} ~~shishe verë~~] X° [e vogël [_{CN} ~~[_{N1}shishe]~~
          ~~[_{N2} verë]~~]]]

In other words, (43) is ruled out by the fact that in order to merge a modifier, we need to copy the functional features of either N1 or N2. Being in one and the same functional structure the functional heads merged one on top of the other must share functional features. The ungrammaticality of the two structures in (43) is due to the mismatch of functional features in X and Y.

As we have noticed several times, Arbëresh can express pseudo-partitives only with the "Direct pseudo partitive". The structures in (42a-b) derive the contrasts in (44), parallel to the Albanian example in (33) but differently for the Albanian example in (34):

(44) a. një butij (*e vogle) verë (e vogle)
          a bottle (*small) wine (small)
      b. një macë (*i madhë) lule (i madhë)
          a bunch (*big) flowers (big)

The different result in the two languages is directly derived by the proposal that Albanian "Ablative pseudo-partitive" are actually instances of the more general (Ablative) Modification structure. The structure in (42c) derives the contrasts of Arbëresh (32). As expected, parallels of (43) are ruled out in Arbëresh as shown by the ungrammatical (45):

(45) a. *një butij verë e vogle të kuq
          a bottle wine small red
      b. *një butij verë të kuq e vogle
          a bottle wine red small

In (42b-c) above, CN moves as an XP in a roll-up fashion. This movement must be distinguished from N-to-D movement in Albanian. Apparently, CN cannot undergo N-to-D movement, contrary to what can happen when N1 is in a (prepositional) partitive construction. Notice that there is no ban to definiteness *per se* on N1, since the demonstrative is perfectly acceptable in (46c):

(46) a. *shishja verë   (Albanian)
          bottle-the wine
      b. shishja me verë
          bottle-the with wine
          "the bottle of wine"
      c. kjo shishe verë
          this bottle wine

As for the impossibility for the "Direct pseudo-partitive" to occur in oblique case assigning positions, let's assume, as is plausible, that the realization of oblique case

morphology requires the merging inside the nominal phrase of a functional head to which Oblique case is assigned, call it K. Such a functional head is projected in a bottom-up fashion by a "regular" NP but not by a CN. In other words a CN can only realise a "default" case, while if N1 realises an oblique case it must move alone into a position in KP.[8]

Oblique case can be realized on N1 inside the CN in Arbëresh (47a) where the "Ablative pseudo-partitive" is not available, but not in Albanian (47b) which generalises the "Ablative pseudo-partitive" to all kinds of N1 in this case.

(47)   a.   voj një biker ndandiz një butije verë / *vere   (Arbëresh)
            put a glass near a bottle.DAT wine.DIR /*OBL

      b.   vë çdo gotë pranë një shisheje vere / *verë   (Albanian)
            [I] put a glass near a bootle.DAT of wine.OBL/*DIR

The contrast in (47) can be reduced to a general contrast in morphological richness of the nominal pattern in Albanian and Arbëresh, where the latter is less rich. We suggest that in Arbëresh the oblique case head K is "weak" in the well known sense and does not require movement of N1 into it. As a consequence, in Arbëresh, N1 can enter the numeration already inflected for oblique case and as such can be compounded with N2 in CN. This is not possible in Albanian which has "strong" inflection that triggers movement of N1 to check the case morphology.

Let us now turn to the "Ablative pseudo-partitive". We assume here that Ablative case is assigned to NP2 by a low functional head projected by N1, which we call ABL°. This is the case in all Ablative constructions which include the Albanian "Ablative pseudo partitive" and the Modification Construction in both Albanian and Arbëresh. The structure is given in (48):

(48)   a.   një [ABLP [NP1 tufë] ABL° [[NP2 lulesh] [NP1 ~~tufë~~]]
      b.   një [ABLP [NP1 autor] ABL° [[NP2 dramash] [NP1 ~~autor~~]]

In (48), after merging of ABL°, NP1 moves to the left of NP2 (in SpecABLP) and obtains the observed word order. In this construction we have two separate NPs, each of which

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8.   This can take place by either by head movement to K or by NP movement to SpecKP. It is not crucial to decide between the two possibilities here

can merge its own modifiers. Let us start with the case of a modifier of NP2. In this case the modifier builds a constituent with NP2 and excludes NP1, as in (49).

(49) a. një [$_{ABLP}$ [$_{NP1}$ tufë] ABL° [[$_{NP2}$ lulesh të freskëta] [$_{NP1}$ ~~tufë~~]]
           a   bunch   flowers ABL.Pl fresh ABL.Pl

      b. një [$_{ABLP}$ [$_{NP1}$ autor] ABL° [[$_{NP2}$ dramash të njohura] [$_{NP1}$ ~~autor~~]]
           a   author   dramas ABL.Pl famous ABL.Pl

In (49), we disregard the obvious movement inside the constituent indicated here (for expository purposes) as NP2 which is a much more complex constituent than a simple NP (most probably a DP), since it contains an N, its modifier, and a landing site which allows for the N to appear at the left of the modifier.

Let us now see what happens when we merge an adjective modifying NP1 in Albanian. If it is the only adjective, it can appear either between N1 and N2 or after N2. This former case can be analysed as movement of the sole NP1 to the left of the functional head X°, as in (50a). The latter case can be analysed as movement of the whole ABLP to the same position as in (50b):

(50) a. një [[$_{NP}$ tufë] X° [e madhe [$_{NP}$ ~~tufë~~] ABL [$_{NP}$ [lulesh] [$_{NP}$ ~~tufë~~]]
           a bunch.DIR big.DIR   flowers.ABL

      b. një [[$_{ABLP}$ tufë lulesh] X° [e madhe [$_{ABLP}$ [$_{NP}$ ~~tufë~~] ABL [[lulesh] ~~tufë~~]]]
           a bunch.DIR flowers.ABL big.DIR

We can combine the structure in (49) and (50), in the sense that the merging of a modifier in NP2 does not block merging of a modifier of NP1, as in (51):

(51) a. një [[$_{NP}$ tufë] X° [e madhe [$_{NP}$ ~~tufë~~] ABL [$_{NP}$ [lulesh të freskëta] [$_{NP}$ ~~tufë~~]]
           a   buch.DIR.SG big.DIR.SG flowers.ABL.PL fresh.ABL.PL

      b.   një [$_{NP1}$ autor] X° [i ri [$_{ABLP}$ [$_{NP1}$ ~~autor~~] ABL° [[$_{NP2}$ dramash të njohura]
           [$_{NP1}$ ~~autor~~]]
           a author.DIR.SG young.DIR.SG dramas ABL.Pl famous ABL.Pl

As expected, Arbëresh "Ablative modification constructions" also display this property:

(52) a. një ncahat e madhe pumadoreve të kuqë
           a salad.DIR.SG big DIR.SG tomatoes.ABL.Pl red ABL.Pl

   b. një tac e bardh qumshti frishku
     a cup.DIR.SG white.DIR.SG milk.ABL fresh.ABL

Notice that even though the Arbëresh structure in (52b) is syntactically correct, it is semantically anomalous since only the modification interpretation is available with the Ablative in Arbëresh and it is difficult to imagine context appropriate for a white cup **for** fresh milk. The more natural pseudo-partitive interpretation for a white cup **of** fresh milk is not compatible with the Ablative in Arbëresh and it is excluded.

6. Some conclusions

If we project our preliminary study onto a more general cross-linguistic perspective, we can observe that the pseudo-partitive semantics may be realised in the syntax with constructions that are parasitic to a modification relation, as in English and Italian and differently from German:

(53) a. *Engl.*   a cup of coffee   a cup of ceramics
      b. *It.*   una tazza di caffè   una tazza di ceramica
      c. *Germ.* eine Tasse Kaffee   ein Tasse aus Keramik / eine Keramiktasse

This variation is also found in the microvariation between Albanian and Arbëresh. In the latter the pseudo-partitive and the modification construction are completely differentiated, while in the former, the situation is unstable. The differentiation is only found with a subsection of container nouns and only in direct cases, with restrictions on the occurrence of modifiers, but the modification construction which is expressed with Ablative case on the modifying noun can be used to express the pseudo-partitive semantics every time the restrictions are not obeyed.

This unstable state of affairs produces a high degree of uncertainty among speakers in less idiomatic cases, such as the cases in which we add one or even two modifiers or in cases in which the pseudo partitive is itself in an oblique case assigning context. In Arbëresh the situation is perfectly stable, with the Ablative only used for modification, and the pseudo-partitive displays all the restrictions found in Albanian with no possibility of escaping them. There is nothing "deep" in this kind variation, but only the

fact that the Albanian system is less stable with respect to this construction than the Arbëresh.

This brief study has a second, more theoretical goal, in that it crucially makes use of a bare phrase structure procedure to capture in a unified way the different behaviour found between the Direct and the Ablative pseudo-partitive. We believe that the parallelisms and the differences between these two constructions could not be expressed in the more traditional X-bar system, even in one of its more recent versions which distinguishes between a possible lexical vs. functional status of N1 in the spirit of van Riemsdijk's (1998), as in Vos (1999) for Germanic and Stavrou (2003) for Greek. That line of approaching the issue predicts case sharing to occur between N1 and N2 in the case N1 has functional/quantifying status. This prediction is contradicted by the data of the two Albanian variety analysed here. In these languages, the "Direct pseudo-partitive" never displays case sharing. In oblique case assigning contexts it either keeps the Direct case, as is the case of Arbëresh, or it turns into an "Ablative pseudo-partitive" as is the case of Albanian. This matter of fact shows that even the case sharing in Direct case assigning contexts is only apparent, and that the Direct case on N2 is not simply percolation of case features through a transparent N1 but possibly a default case assigned to both component of the syntactic compound noun (CN).

Another crucial difference between our proposal here and those previous accounts is that we do not state an asymmetry between N1 and N2 by attributing headedness to one of them in the pseudo-partitive reading, since the head of the pseudo-partitive noun phrase is CN. The particular structure of CN also derives the "defective" character of the construction in the realization of the modification filed and of the determiner field.

For reasons of time and space we leave for further research a comparative discussion of a second line of previous ananlysis which treats pseudo-partitives as predicate structures, as in Corver (1998) and the reference quoted there. We believe that our analysis, although apparently distant from this latter line of research has some common aspects with it, in that N2 is taken as an intermediate projection (not a head N, but not a DP either) which is merged with N1 to build a complex constituent.

A last remark on the obvious lack of macro comparative research of this study. We hope that our proposal can be extended to well studied languages which display case sharing such as German (cf. Löbel 1989) and the other languages analysed by Vos (1999) and Stavrou (2003) among many others.

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The Order of Prepositional Phrases

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1. Introduction

Modifiers in general and prepositional modifiers in particular were often considered to be adjuncts to some functional projection above the VP (be it vP or TP). This would prohibit any syntactic base order among themselves. If some rigid ordering was found, this was usually attributed to some semantic property.

This view changed radically with the publishing of (Cinque 1999). In this book Cinque showed that certain types of adverbial modifiers namely adverbs, auxiliaries and modifying affixes of agglutinating languages obey strict ordering restrictions among themselves. A large sample of data from very different languages revealed that this order is universal:

Sentence modifying adverbs can be subdivided in a finite group of classes which obey a strict order relation among themselves. I give here the labels of these classes together with a typical representative:

$Mood_{speech\ act}$	frankly
$Mood_{evaluative}$	fortunately
$Mood_{evidential}$	allegedly
$Mod_{epistemic}$	probably
T (Past)	once
T (Future)	then
$Mood_{irrealis}$	perhaps
$Mod_{necessity}$	necessarily
$Mod_{possibility}$	possibly
$Mod_{volition}$	willingly

$Mod_{obligation}$	inevitably
$Mod_{ability, permission}$	cleverly
$Aspect_{habitual}$	usually
$Aspect_{repetitive\ I}$	again
$Aspect_{frequentative\ I}$	often
$Aspect_{celarative\ I}$	quickly
T (Anterior)	already
$Aspect_{terminative}$	no longer
$Aspect_{continuative}$	still
$Aspect_{perfect}$	always
$Aspect_{retrospective}$	just
$Aspect_{proximative}$	soon
$Aspect_{durative}$	briefly
$Aspect_{generic/progressive}$	characteristically
$Aspect_{prospective}$	almost
$Aspect_{SgCompletetive\ I}$	completely
$Aspect_{PlCompletive}$	"tutto"
Voice	well
$Aspect_{celarative\ II}$	fast, early
$Aspect_{SgCompletetive\ II}$	completely
$Aspect_{repetitive\ II}$	again
$Aspect_{frequentative\ II}$	often

(Cinque (1999,106))

Affixes in agglutinating languages, if realised as suffixes, obeyed the exact reversed order. If found as prefixes they are either in the original (direct) order, or in very rare cases such as Navajo, in reversed order.

Auxiliaries which serve the purpose of these affixes in fusional languages such as English, show up in direct order.

In order to give an explanation to these facts Cinque proposed a syntactic hierarchy of functional projections between CP and VP. This was in fact an extension of the Split-Infl theory of (Pollock 1989). Auxiliaries and Affixes representing modifiers are sitting in the heads of the respective projections, while their specifiers host the adverbs (AdvP). In subsequent work (Cinque 2001) he showed that the above proposal could be extended to certain modals, the so called restructuring verbs.

In my dissertation I wanted to see whether it was possible to apply the idea of a rigid hierarchy to prepositional phrases which modify the VP. In order to verify this I had to find a suitable subdivision of PPs in classes, and then test whether there could be found an ordering relation among them.

This work presents syntactic tests and their results together with certain stastical control methods, which might find application in other fields of linguistic research.

2. Thematic Roles as PP classes

Given their semantic content, thematic roles seemed to be the natural candidate for a subdivision of these modifying prepositional phrases into suitable classes. Two members of the same class cannot be added without a syntactic coordinator if referring to different entities:

(1) I decorated the box with a spray can and (with) a paint brush.

(2) *decorated the box with a spray can with a paint brush.

"with a pray can" and "with a paint brush" are both bearers of the same thematic role (instrumental). There is no semantic reason which prohibits having two instruments in the same sentence as example (1) shows. Nevertheless, without a coordinator the sentence becomes ungrammatical. Since coordination is a syntactic device, I conclude that the thematic roles constitute syntactic classes.

Some sentences with two locative or temporal PPs which seem at first sight to be counterexamples, instead turn out to reinforce the analysis:

(3) I met John in Italy in Venice.

(4) I met John in Venice in Italy.

(5) I met John on thursday at 8 o'clock.

In none of the cases the two PPs refer to different referents. In (3) "in Venice" is a specification of the location and can be considered a modifier of the PP "in Italy" while

in (4) "in Italy" is a specification of "Venice" (the Venice in Italy, not the one in California). In (5) "at 8 o'clock" is a modification of "on Thursday".

If I want to express having met John in two different places or at two different times I again have to use coordination.

(6)   I met John in Paris *(and) in Venice.

(7)   I met John on Thursday *(and) on Friday.

Using the above considerations as guidelines I stipulated in a first approach the following thematic roles as classes :

2.1. Benefactive

The Benefactive introduces a participant who benefits from the action done by the actor. In German the preposition is always "für".

für seine Frau	for his wife
für seinen Chef	for his boss

2.2. Comitative

Comitatives add a person, which share the role of the subject. If the subject is an agent, they are semantically also agents. But these additional agents are not introduced via coordination, but by means of a prepositional modifier. The accompanying preposition is in many languages the same as the one introducing instruments. In German this is "mit", in Russian "s", in English "with" and in Italian "con". I do not think this is sheer coincidence, but for the moment I have no explanation for it. The syntactic tests show clearly that its position is much higher than the one of the instrument.

mit einem Kollegen   with a colleague

2.3. Evidential

This group of prepositional modifiers adds the source of the proposition. This can be a person, but legends, stories and rumours can also be stated. German has two adpositions, which introduce them, "nach" and "gemäß". Both can be used as prepositions or postpositions. "Nach" is more common with non human DPs. "Gemäß" as a preposition can have either a genitive or a dative complement; as postposition it always follows a dative DP.

einem Zeugen gemäß	according to a witness
gemäß eines Zeugen	according to a witness
nach einer alten Legende	according to an old legend
einer alten Legende nach	according to an old legend

2.4. Goal

This is a special kind of directional modifier which adds the goal of a movement. Since in many languages Goals are introduced by the same prepositions as Locatives, Directionals and Locatives are often grouped together. In English you have to add the particle "-to" to some of the locative prepositions: "into", "onto", others like "under" are ambiguous. The preposition "to" by itself is only directional. In German, all locative prepositions can be used in directional goal modifiers. Additionaly, there exists "nach"

nach Hamburg	to Hamburg

2.5. Instrumental

This thematic role determines the instrument, the tool, which was used in order to commit the action. In German this role is exclusively realised by the preposition "mit".

mit einem Schraubenzieher	with a screwdriver

Since the same preposition is used with Comitatives and Means, they are often confused with each other. I am not sure whether Means and Instrumentals take different positions.

But Comitatives and Instrumentals have rather different semantics and occupy distinct positions.

2.6. Locative

This maybe the most common, in any case the most described thematic role. It determines the place where the action occurs. This is usually done by relating the event to an object, described by a DP. A great variety of prepositions make this relation explicit.

in Venedig	in Venice
hinter der Schule	behind the school
vor der Schule	in front of the school
neben der Schule	beside the school
auf dem Tisch	on the table
unter dem Tisch	under the table
über dem Tisch	above the table

2.7. Malefactive

This modifier adds an opponent, an obstacle to the proposition, a person or a (weather) condition which wants to block the action. Malefactives can also introduce a rival. Principal preposition in German is "gegen"

gegen das schlechte Wetter	against the bad weather
gegen seinen Erzkonkurrenten	against his arch-rival

2.8.   Manner

This maybe the most problematic group. Prepositional modifiers determine the manner in which a certain action was done. Frequently used prepositions introducing this theme role are "mit" and "auf". Speed modifiers are very often subsumed under this category. Since Cinque establishes frequentative and celerative adverbs as separate classes in his hierarchy, I was careful to use only certain expressions. In order to be always in the same class, I constructed examples with PPs of the following type.

auf besondere Art und Weise   in a special way

If taken in a broader sense, you would find examples such as:

mit Vorsicht   carefully
mit hoher Geschwindigkeit   with high speed

2.9.   Matter

With this somehow artificial term, I named a group of modifiers that give the topic of a talk, the subject of research or a book. In German it is used with the preposition "über"

über Mathematik   about mathematics

2.10. Means of Transportation

Cars, public busses, bicycles, airplanes are all examples of instruments, which can be used for movement. It is not clear whether this thematic role has to be distinguished from Instrumentals. But since verbs of movement have particular behaviour, I decided to make this distinction. The results showed, that Instrumentals and Means PPs are close neighbours, if separate at all. In German as in many other languages, they share the same preposition "mit". In English, Means modifiers are often introduced by "by".

mit dem Bus   by bus
mit einem Ferrari   with a Ferrari

2.11. Path

In addition to source and goal of a journey we can name a place, which has been passed by. In German, the preposition "über" introduces the place, sometimes you find "durch".

über Mainz	through Mainz
durch Mainz	through Mainz

2.12. Reason

This role determines the reason or motive a certain action was done. Typical prepositions are "wegen" and "aus":

wegen einer Krankheit	because of illness
aus Angst	because of fear

Reason modifiers are more sensitive to scope effects than most of the other types. There is a big difference between "Vincent painted because of the splendid light in Provins" and " Vincent paint in Provins because of the splendid light". The second sentence is indicating that Vincent went to Provins to paint, because of the splendid light there; this shows, that the reason modifier takes into its scope the Locative. In the first sentence the reason modifier only takes the nuclear event – Vincent paints – into its scope. The fact that the act of Vincent painting because of the splendid light takes place in Provins is just an additional information.

2.13. Source

Source modifiers specify the origin of a movement. They belong to the group of Directionals and are also related to Locatives. In many languages, combinations of a preposition like "from" and locative preposition are used together to form something like "from under". Standard German does not allow for this construction, but several dialects have it ("von unter der Brücke"). Source modifiers are usually introduced by "von".

von München	from Munich

2.14. Temporal

These expressions determine the time interval in which the actual event takes place. It could be a year, a month, a certain day, an hour etc. The preposition in German is either "an"/"am" (with day), "um" (with time) or "in"/"im" (with month, year, season):

am Sonntag	(on) sunday
am gestrigen Tag	yesterday
um 14 Uhr	at 2 pm
im Dezember	in December
im Jahre 1492	in 1492
im Herbst	in autumn

3. Syntactic Test

As a next step I had to check for ordering restrictions. But unfortunately there is no strict rigid surface order as the following examples show.

(8)   Canova sculpted with marble in Venice.

(9)   Canova sculpted in Venice with marble.

(10) Leonardo worked for Sforza in Milan.

(11) Leonardo worked in Milan for Sforza.

In the sentences (8) and (9) the thematic roles of Instrumental and Locative are reversed, but both sentences are grammatical. The same is valid for the Benefactive and Locative in the sentences (10) and (11). If there is a base ordering among thematic roles then movement must have produced (at least) one of the orders of each pair. Therefore, the next step was to look for syntactic tests which are sensitive for movement. Since German is my mother language I concentrated on this language, especially on the German Mittelfeld.

3.1. Quantifier Scope

The first test exploits the fact that sentences with two operators, where the lower has moved across the higher, exhibit scope ambiguity. I used sentences with two PPs in which one contains a universal quantifier and the other an existential. If the lower operator never crosses the higher we expect sentences with only one interpretation, the one with the higher operator taking scope over the lower:

$$\forall x \ (\exists y)$$

or

$$\exists x \ (\forall y)$$

In case of movement, however, we find scope ambiguity. Two interpretations are available, one with the moved element taking scope over the other and another interpretation with the originally higher one over the trace:

$$\exists x_i \quad (\forall y \quad t_i)$$
$$\exists x_i \quad \forall y \quad \quad (t_i)$$

or

$$\forall x_i \quad (\exists y \quad t_i)$$
$$\forall x_i \quad \exists y \quad (t_i)$$

The ambiguity is often explained in terms of optional reconstruction. If two different thematic roles were base inserted in different but fixed positions, this test should give us in one order only one interpretation while in the other an obvious ambiguity.

Applying this test to the pair of matter PP and temporal PP results in a clear contrast. I evaluated two couplets of sentences. Each couplet retains the order of the operators but reverses the thematic roles. In the first couplet the existential operator comes first, in the second couplet the universal operator is in front.

3.1.1. Matter – Temporal

(12)　　Tony hat an mindesten einem Tag über jede Massenvernichtungswaffe　ge-
　　　　sprochen.
　　　　Tony has on at least one day about every mass destruction weapon spoken

Tony spoke about every mass destruction weapon on at least one day.

(13)   Tony hat an mindesten einem Tag über jede Massenvernichtungswaffe gesprochen.

∃ (time) ∀ (matter)

?? ∀ (matter) ∃ (time)

(14)   Tony hat über mindestens eine Massenvernichtungswaffe an jedem Tag gesprochen.

∃ (matter) ∀ (time)

∀ (time) ∃ (matter)

(15)   Tony hat über jede Massenvernichtungswaffe an mindesten einem Tag gesprochen.

∀(matter) ∃ (time)

∃ (time) ∀ (matter)

(16)   Tony hat an jedem Tag über mindestens eine Massenvernichtungswaffe gesprochen.

∀ (time) ∃ (matter)

* ∃ (matter) ∀ (time)

The prevalent interpretation of (13)) is that there is at least one special day on which Tony spoke about every mass destruction weapon. The reversed scope interpretation, that for every weapon there is at least one day on which he spoke about it– but not necessarily the same day for every weapon is nearly excluded.

In (14) however we get both interpretations: 1) that there is a special weapon about which Tony spoke every day and 2) that he spoke every day about at least one weapon, but not necessarily the same one each day. From this we can conclude, that (13) represents the base order: Temporal is higher generated than Matter, while in (14) the lower Matter PP is moved across the (original) higher Temporal.

The contrast in the second couplet with the universal operator both times coming first is even sharper. In (16) the reversed scope interpretation is totally excluded, while in (15) both interpretations are available.

Note also that, for me, the reverse interpretation in both, (14) and (15) is prevalent, which I indicated with bold face.

So far this seems to be a convincing result, but before continuing let's have a look on another pair:

3.1.2. Temporal - Locative

(17)   Georg hat an mindestens einem Tag in jedem Sandkasten Krieg gespielt.
          George has on at least one day in every sand box war played
          'George played war in every sandbox on at least one day.'

(18)   George hat an mindestens einem Tag in jedem Sandkasten Krieg gespielt.
          $\exists$ (time) $\forall$ (place)
          $\forall$ (place) $\exists$ (time)

(19)   Georg hat in mindestens einem Sandkasten an jedem Tag Krieg gespielt.
          $\exists$ (place) $\forall$ (time)
          $\forall$ (time) $\exists$ (place)

Here in both cases I get scope ambiguity. (18) could mean that there was a special day on which George played war in every sand box. But it could also mean that for each sand box there was at least one day in which he played in it.

(19) reveals the analogous ambiguity. I get the interpretation that there is at least one sand box in which George played war every day and that there is for each day at least one (maybe different) sand box in which he played.

Does this mean that Locatives and Temporals belong to the same class? Let's look to the couplet with the universal quantifier coming first. This time I get a clearer asymmetry.

(20)   Georg hat in jedem Sandkasten an mindestens einem Tag Krieg gespielt.
          $\forall$(place) $\exists$ (time)
          $\exists$ (time) $\forall$ (place)

(21)   Georg hat an jedem Tag in mindestens einem Sandkasten Krieg gespielt.
          $\forall$ (time) $\exists$ (place)
          ?? $\exists$ (place) $\forall$ (time)

This time I get a clearer contrast. Only (20) is clearly ambiguous. In (21) the reverse scope interpretation is much less available than the direct scope interpretation, though not totally excluded.

The fact that in some couplets only one order gives rise to scope ambiguity and in others there is only some asymmetry, raises the question of the validity of the test. In order to get a significant result I had to take some precautions:

1. I tested all possible combinations (91) of the thematic roles. For each pair of thematic roles I compared two couplets, one with the existential quantifier always to the left and thematic roles exchanged and the other with the universal quantifier to the left. This should show, whether the resulting hierarchy is transitive.

2. I had to give a precise definition of "asymmetry". Each judgement was furnished with an evaluation. I concentrated on the comparison of the pairs. An interpretation got a "*" if it was not available at all (e.g. reverse scope interpretation in (16)). If the reverse scope interpretation was only marginally available it was furnished with "??" (e.g. (13) and (21)). If I got only an asymmetry in availability (meaning in both sentences of a couplet the reverse scope is available but in one of them less available) I gave the less available interpretation a "?". I assigned a number to each of the symbols: "?" evaluates to "1", "??" to "2" and "*" to "3"

In some of the cases the reverse scope interpretation was prevalent ((14) and (15)). These interpretations were indicated with bold face. The equivalent number in this case is "1", otherwise "0".

Summarizing symbols and numbers:

Symbol	Desription	Numeric Evaluation
?	Reverse scope interpretation availlable, but more marked than the reverse scope in the partner sentence of the same couplet	1
??	Reverse scope interpretation marginally availlable	2
*	Reverse scope interpretation not available	3
bold	Reverse scope prevalent	1

In order to quantify the judgement I assigned a number to each pair of thematic roles. It is the sum of the elements of a quadrupel of numbers which consist of:

1. The number of question marks in the first couplet of (the one with the existential operator in front), counting the "*" as "3".

2. The number of question marks in the second couplet (the one with the universal operator in front).

3. The number "1", if in the first couple in one of the sentences the reverse scope interpretation was salient, otherwise "0".

4. The number "1", if in the second couple in one of the sentences the reverse scope interpretation was salient, otherwise "0".

The resulting number is the sum of these four numbers. In the previous examples we get:

For the pair Matter – Temporal:
Result(QS): (2,3,1,1) Σ = 7 Temporal > Matter

For the pair Temporal – Locative:
Result(QS): (0,2,0,0) Σ = 2 Temporal > Locative

3.2. Informational Focus

A well known property of the German Mittelfeld is the fact that among two constituents the one behind can always bear informational focus, i.e. be understood as answer to a constituent question, while the one in front can bear it only when base generated higher. (Lenerz 1977). This works especially well for indirect and direct objects. Take the following base sentence:

(22) Ich habe dem Kassierer   das Geld   gegeben.
     I   have (the cashier)+DAT the money given
     'I gave the money to the cashier.'

If we question the indirect object, sentences with two possible word orders are acceptable answers:

(23) Wem hast du das Geld gegeben?
     'To whom did you give the money?'

(24) Ich habe *dem Kassierer* das Geld gegeben.

(25) Ich habe das Geld *dem Kassierer* gegeben.

If, however, the direct object is questioned, only the word order with the direct object following the indirect is acceptable as an answer.

(26) Was hast du dem Kassierer gegeben?
      'What did you give to the cashier?'

(27) Ich habe dem Kassierer *das Geld* gegeben.

(28) ?? Ich habe *das Geld* dem Kassierer gegeben.

The indirect object with informational focus can be positioned before or after the direct object; therefore we take it to be higher generated.
If PPs realising different thematic roles were base generated in different position this test should give rise to an asymmetry amongst the two possible orders.
I start with a base sentence having a Benefactive and a Temporal:

(29) Donald hat am Dienstag für Georg   gelogen.
      Donald has on Tuesday   for George lied
      'Donald lied for George on Tuesday.'

If I question the Temporal I get two possible answers:

(30) Wann hat Donald für Georg gelogen?
      Donald hat für Georg *am Dienstag* gelogen.
      Donald hat *am Dienstag* für Georg gelogen.

But if I question the Benefactive, putting it in front of the Temporal becomes odd:

(31) Für wen hat Donald am Dienstag gelogen?
      Donald hat am Dienstag *für Georg* gelogen.
      ?? Donald hat *für Georg* am Dienstag gelogen.

In analogy to the above example we can deduce that Temporals are base generated higher than Benefactives.

As in the case of the Quantifier Scope Test the results were not always clear cut yes/no distinctions, although an asymmetry was always detectable.

Again I quantified the judgements. If it was not possible to have the questioned constituent in front, a sentence was marked by a "*". If it was only marginally possible it got a "??". If there was just an asymmetry; i.e. the positioning of the questioned element in front of the other was possible but less acceptable than in the partner pair, I gave it a "?".

The evaluation of a pair of thematic roles consists of a pair of numbers and their sum. The first element of the pair equals to the number of question marks, again counting the "*" as "3". The second element of the pair equals to "1" if the focussed element is preferred in first position (marked in the sentences in bold face).

Summing up the two numbers gives the strength of the judgement. In the above example we get:

Result(IF) $(2,1) \Sigma = 3$ Temporal > Benefactive

3.3. Pair List Reading

This test is another application of scope ambiguity, this time between an interrogative operator and an universal quantifier (proposed by (May 1988) see also (Bruening 2001)).

If the interrogative is generated above the quantifier and moves up to the left periphery, it always has the quantifier in its C-command. It allows only one possible answer containing the universal quantifier:

(32) Who read all the books?
      John read all the books.

But if the interrogative is base generated below the quantifier and moves across it to its surface position, we get scope ambiguity. In the first case the wh-element is interpreted as taking scope over the quantifier, as in the above case. We expect only one simple answer:

(33)   Which book did all the boys read?$_1$
    All the boys read "The Minimalist Program"

In the second case, the quantifier is interpreted as taking scope ever the trace of the interrogative. Now the answer is a list of pairs:

(34)   Which book did all the boys read?$_2$
    Bob read "Aspects",
    Bill read "Barriers" and
    John read "The Minimalist Program".

Applying this test to modifying PPs gave even clearer results than the other two tests.
If we take the combination of Comitative and Temporal and question the Comitative we get two types of answers. A simple one with the universal quantifier and a list of pairs:

Mit welchem Freund hat Georg in jedem Jahr Krieg gespielt?
With which friend did George play war every year?

Georg hat in jedem Jahr mit Tony Krieg gespielt.
George played war with Tony every year.

Georg hat   2002 mit Tony und Gerhard gespielt,
        2003 mit Tony und José
        2004 mit Tony und Silvio.
George played with Tony and Gerhard in 2002, with Tony and José on 2003 and with Tony and Silvio in 2004.

If the Temporal becomes the wh-element and the Comitative has the universal quantifier, the pair list reading becomes unavailable:

Wann hat Georg mit jedem Freund Krieg gespielt?
When did Georg play war with every friend?

Georg hat 2002 mit jedem Freund Krieg gespielt.
George played war with every friend in 2002.

4. The Results

During the research four questions became relevant:

1. Do all three tests result in a linear order?
2. Do all three tests give the same result?
3. What exactly is the resulting order?
4. Does the weighting give some clue?

4.1. Do all three tests result in a linear order?

A relation ">" is resulting in a linear order if it is

a) *transitive*

If A > B and B > C then A > C

b) *antisymmetric*

If A > B then not (B > A)

 c) *total*

For all possible pairs (A,B) there is a relation between them so that either A > B or B > A.

All three test resulted in nearly perfect linear order. The only deviations were:

Deviations from Transitivity:

Only the Pair List Reading Test gave a slight deviation from transitivity. It gave

Means of Transport > Malefactive

Malefactive > Instrumental

Means of Transport = Instrumental

Deviations from Antisymmetry:

There were few cases where there could not be detected an asymmetry between two thematic roles.

In the Quantifier Scope Test:

Path = Means of Transport

In the Informational Focus Test:

Instrumental = Path
Instrumental = Means of Transport

In the Pair List Reading Test:

Instrumental = Means of Transport (see also above)

All these deviations concern the same low part of (Path / Means of Transport / Instrumental). This could indicate that they do not really constitute different thematic roles but occupy the same position. Semantically, Means of Transport and Instrumental are quite similar.

Deviations from Totality:

Matter and Means of Transport are not compatible. Means of Transport needs a motion verb which seems to be incompatible with a Matter modifier.
Furthermore, there is a problem of having a Goal and a Means of Transport modifier together. In this case, motion verbs tend to take the Goal as a (selected) complement. I wanted to avoid mixing complements with modifiers. So this is not a real incompatibility of thematic roles.

All together, the above deviations can be reduced to few cases which can be explained by model of a hierarchy of functional projections above VP.

4.2. Do all test give the same results?

I give you here the resulting orders of the single tests:

QS	PLR	IF
Evidential	Evidential	Evidential
Temporal	Temporal	Temporal
Locative	Locative	Locative
Comitative	Comitative	Comitative
Benefactive	Benefactive	Benefactive
Reason	Reason	Reason
Source	Source	Source
Goal	Goal	Goal
Malefactive	Malefactive	Malefactive
Path/Means	Instrumental/Means	Instrumetal/Means
Instrumental	Path	Path/Instrumental
Matter	Matter	Matter
Manner	Manner	Manner

As can be seen all three tests give the same order, again with the exception of the region of Path / Means of Transport / Instrumental. Therefore, I would answer the question with a clear yes.
This leads directly to the answer of the third question.

4.3. What exactly is the resulting order?

Evidential > Temporal > Locative > Comitative > Benefative > Reason > Source > Goal > Malefactive > Instrumetal/ Means/Path > Matter > Manner

4.4. Does the weighting give some clue?

The most surprising result was the observation that the judgement about the asymmetry was stronger the further away two elements in the hierarchy were. The evaluation number can be interpreted as a measurement of distance. The thematic roles cannot be

grouped into classes where members of the same class behave less asymmetrically with respect to the test and members of different classes have sharper distinction. The sharpness of the judgement increases gradually with the distance.

This becomes clear when taking the average over all distances from the lowest element Manner. It is defined by:

$$n_{Ave}(TR1) = \Sigma_n TR2(\text{Distance}(TR2, TR_{Ref}) - \text{Distance}(TR2,TR1))\,/n_{hits}$$

The average distance of a certain thematic role TR1 is evaluated by taking for each other thematic role TR2 the distance of this role to Manner (TR_{REF}) minus the distance between TR1 and TR2 and summing all up. The interesting finding is that this results in exactly the same hierarchy as revealed by the individual tests.

An interpretation of this effect can be achieved if we assume that in order to scramble a lower PP across a higher there are (at least) two different derivations, one in order to reverse scope and another for focus effects.

The above tests detect always for only one effect, either scope or focus. If movements existed only for scope reasons, the Quantifier Scope and Pair List Reading Tests would give sharp yes or no results. But there can be additional movements for focus reasons as can be seen for the Informational Focus Test. This explains, the remaining interpretations of the reverse kind.

The fact, that the sharpness of the judgement increases with the distance indicates that the "scrambled" PP has to do more work, it has to move around all intervening functional projection. This in turn shows that these intervening projections always exist, even if not represented overtly in the pronounced string.

A few remarks to the validity of this hierarchy. When doing the test I tried carefully to avoid seeing in the data what I expected, especially when having evaluated a pair of thematic roles with another test. Of course the judgements especially between neighbours can be subtle. But the order between one thematic role and the one following its direct neighbour in the above hierarchy seems to me very clear.

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